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THE COVER

The cover depicts *Junonia villida calybe*, the meadow argus butterfly. The illustration, which won third prize in the Student Colour section of the 1997 AES Scientific Illustration Competition, was prepared by **Justin Slevin** of the University of Newcastle.

MYRMECIA

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COPY DEADLINE FOR NEXT ISSUE

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EXECUTIVE REPORT

(none received)

The Australian Entomological Society Inc.

Notice of 29th Annual General Meeting

The Society's 29th Annual General Meeting will be held in Brisbane on 27th September 1998. An Agenda appears below. Members who wish to have additional items included in the Agenda for discussion at the 29th AGM need to provide the Secretary with details by 1 September.

The Australian Entomological Society Inc.

PROVISIONAL AGENDA

The University of Queensland, Brisbane
Sunday 27 September 1998

1. Opening and General Announcements
2. Announcements of Proxies and Apologies
3. Deaths of members recorded since 28th Annual General Meeting
4. Minutes of 28th Annual General Meeting
5. Business arising out of the Minutes
6. Executive Annual Report, including reports of Vice-President, Treasurer, Business Manager, Chief Editor and Editor of News Bulletin
7. Report of the Conservation Committee
8. Competitions and Awards
9. Business arising from Council Meeting
10. Internet access to members' details
11. Announcements of Office Bearers and Councillors for 1999
12. Report of the Organising Committee, 29th Annual General Meeting
13. Report of the Organising Committee, 30th Annual General Meeting
14. Other business (arranged with the Secretary no later than 1 September 1998)
15. Close

REGIONAL NEWS

AUSTRALIAN CAPITAL TERRITORY

Australian Plague Locust Commission

There will be no rest between seasons for some APLC staff, particularly **Peter Spurgin** and **David Hunter**, with insecticide and *Metarhizium* trials against spur-throated locust scheduled for early spring. **Walter Spratt** was recently appointed Operations Manager filling the gap left by the departure of **Elizabeth Bie**. **David Howie** from our Longreach Base recently attended a locust training course run by NRI at Silwood Park in England this was followed by a short, very expensive holiday due to the awful exchange rates.

Division of Botany & Zoology
The Australian National University

Entomological research in BoZo seems to be done mostly by students these days, especially as **Penny Gullan** is Acting Head of Division for a year and **Paul Cooper** is immersed in teaching two physiology courses. A recent highlight was **Hari Sutrisno**'s successful completion of his Graduate Diploma in Science (with Distinction). Hari carried out his lepidopteran research in CSIRO Entomology, supervised by **Marianne Horak**, with a thesis on the taxonomy of pyraustine moths (Pyralidae). In August, Hari will commence a Masters working on the phylogenetic systematics of another group of Pyraustinae, also supervised by Marianne and Penny. Another keen lepidopterist, **Sharyn Wragg**, recently commenced an Honours project on the biology and systematics of two species of day-flying moths, *Agaristodes feisthamelii* and *Phalaenoides tristifica*, co-supervised by Penny and by **Marcus Matthews**. We were very pleased in June to see the return of **You Ning Su**, who completed a Grad Dip Sci in BoZo last year with a project on crickets of the genus *Bobilla*. You Ning has started a Masters, again supervised by Penny and **Dave Rentz** and plans to extend his Grad Dip research to the systematics of other Australian nemobiine crickets. **Claire Stephens, Erica Willis, Stuart Dennis, Paul Dobson** and **Stuart Chignell** have just completed their Honours projects in BoZo on grasshopper ecology, chironomid emergence patterns, the ingluvial ganglion of crickets, insecticidal crystal proteins of Bt, and cooperative breeding in a huntsman spider, respectively. Currently Claire is helping to prepare a document on the threatened grassland grasshopper, *Perunga ochracea*; Erica found immediate employment in the Public Service; Stuart D also is working in the Public Service (earning more than a Senior Lecturer!); Paul is continuing work in CSIRO Entomology; and Stuart C is writing papers. **Holly Trueman** and **Sophia Dimitriadis**, who commenced their Honours projects in February, are progressing extremely well. Holly now has gene sequences for a large number of margarodids and is trying to find the right trees to fit the data! Sophia has data on chironomids for the past 10,000 years in Lake Barrine, Queensland, and also from cores in some high elevation Kosciuszko tarns. **Kendi Davies, Brett Melbourne, Ian Wright** and **Hanna Reichel** are continuing their PhD studies on the effects of forest fragmentation on beetles, on the scaling of algae-herbivore processes in coastal streams, on lake classification using chironomids, and on the systematics of *Rhytidoponera* ants, respectively. **Lyn Cook** gets little time for her studies of gall-inducing *Apiomorpha* scale insects because she is still working with Penny on an ABRS project on Australian eriococcids, of the non-gall type. **Jun Lit** (PhD student at the University of the Philippines, Los Baños) now has Penny as an official external adviser for his systematic studies

on Australian and SE Asian lac insects.

Australian Quarantine and Inspection Service

Plant Quarantine Policy Branch has settled in most of its new staff members and the new Branch Head (Dr **Brian Stynes**) has just arrived, so it is full steam ahead with Market Access issues for Australian Plant Products to Overseas and Import Risk Analysis for overseas products coming into Australia. The Office of the Chief Plant Protection Officer is now fully functional, this group deals with management of incursions and barrier monitoring issues.

The role of the Chief Plant Protection Office (OCPPO) is to provide a national focus for, and leadership in plant protection; provide policy advice and strategic directions for plant protection to government, industry and the general public; manage emergency responses to pest incursions; coordinate existing plant protection activities; initiate and facilitate sustainable pest management practices nationally; represent Australia's interests at international meetings and develop networks both domestically and internationally to promote the health of Australia's plants and plant products

The OCPPO works closely with AQIS in incursion management and prevention. We can be contacted on: Ph: 02 6271 6471, Fax: 02 6272 5835, Email: ocppo.contact@dpie.gov.au

Glynn MAYNARD
Regional Councillor

CSIRO Entomology

Paul Dobson submitted his Honours thesis "The Diversity of Insecticidal Crystal proteins of *Bacillus thuringiensis*" to the Division of Botany and Zoology, ANU. **Ray Akhurst**'s Bt project is part of a Research Alliance with AgrEvo directed towards improving cotton. The Alliance will provide additional resources to evaluating the Division's collection of novel Bt toxins for controlling cotton pests.

The Viruses have been mobile. **Peter Christian** and **Terry Hanzlik** recently spent four weeks in California looking for viruses of Heliothinae. **Karl Gordon** attended the 10th Biennial Congress of the South African Society of Microbiology and is currently in South Africa visiting **Don Hendry** for work on small RNA viruses. **David Dall** is in the USA.

A large number of society members with a direct interest in grain storage had the opportunity to meet in Canberra at the end of May when they attended the Australian Postharvest Technical Conference. (see photo on next page) Described as a national meeting for storers, processors and users of grain, pulses, and oilseeds, the conference attracted many people. **Peter Annis**, **Jonathan Banks**, **David Rees**, and **Jane Wright** presented papers.

Peter Annis has been preoccupied for several months working on on-farm grain storage. The end product, a CD-ROM, is now close to completion. In this connection he recently attended a cropping day at Condobolin. In between, Peter has been investigating factors influencing the toxicology of a range of fumigants.

Jane Wright, Jonathan Banks and **David Rees** travelled to Western Australia for consultation with the grain industry in general and Cooperative Bulk Handling in particular. While in Perth the group was shown over CBH's new metro grain centre at Forrest field.

In Morocco, **Jonathan Banks** attended a meeting of the Montreal Protocol's Methyl Bromide Technical Options Committee. Also in connection with methyl bromide, **Jan van Graver** is in Kenya preparing a demonstration of alternatives to methyl bromide in grain storage.

The Division's termite section continues its work on bait technology and assessment of "termite management systems". **Judith Reinhard**, from the Free University of Berlin, is currently working for one year in the Division's termite section on toxic baits for termite control. Judith also brings with her a German interest in beer and has found herself a chair with semi permanent tenure at the Wig and Pen.

Michael Lenz, who failed to take his binoculars with him on his recent trip to the USA and Europe, concentrated instead on matters termitological. In the US he visited the USDA Forest Service in Mississippi to inspect field trials with termites. In Europe he attended a meeting of the International Working Group on Wood Preservation at Maastricht, where he presented two papers on assessment of "termite management systems". He continued to Berlin and Prague for consultations with professional colleagues and swears that didn't visit Prague for the beer.

Rob Floyd is now Program Leader of Natural Resources and Biodiversity. Rob attended the CRC-TREM meeting in July to discuss NR&B involvement in the new bid. **Barry Longstaff** will

visit Thailand and the Philippines during August. **Geoff Clarke** attended the Genetics Society of Australia and Society for Conservation Biology meetings in Sydney in July.

James Lytton-Hitchins has received the welcome news that, apart from some minor corrections, his PhD thesis has been accepted by the University of Sydney. **Barry Longstaff** will be in Thailand and the Philippines on AusAID/ACIAR business between 6&17 August .

Ebbe Nielsen has been one of the driving forces behind both the Australian Academy of Science - CSIRO Biological Informatics Conference (Canberra, 6–8 July) and the forthcoming Conservation Biology Symposium at CSIRO Entomology. **Jim Edwards** and **Tom Lovejoy** attended the Conference and were hosted in the ANIC by Ebbe Nielsen. Jim is the Deputy Assistant Director of the Directorate for Biological Sciences at the US National Science Foundation, and Tom is Chief Biodiversity Adviser for the World Bank and Counsellor for Biodiversity and Environmental Affairs for the Smithsonian Institution. Professor Sir **Robert May**, Chief Scientific Adviser and Head of Office of Science and Technology UK also attended the Conference. **Peter Raven**, Director of the Missouri Botanical Garden and a member of the US President's Committee of Advisers on Science and Technology, spoke on *Biodiversity in the New Millennium: What Should We Do?* in the ANIC Public Lecture Series on 28 July. Peter visited the ANIC and met staff on a variety of projects, hosted by **Ebbe Nielsen**.

Sophia Dimitriadis, honours student co-supervised by **Pete Cranston** and **Partick de Dekker** (ANU, Geology), is making her second visit to Lake Barrine to investigate the neontological chironomid material of this and comparable local FNQ waterbodies, accompanied by **Wendy Lee**.

Following close on the heels of New Zealand visiting scientist **Ian Boothroyd** was **Don Edward**

Grain storage entomologists **Barry Wallbank** (NSW Agriculture), **Greg Dalglish** and **Pat Collins** (QDPI) in discussion at the Australian Postharvest Technology Conference

(University of WA). Both visitors are assisting in untangling the taxonomy of the austral Podonominae, the midge subfamily that **Lars Brundin** made famous for its neat Gondwanan disjunct distributions. Don and Ian bring novel material and previously unknown life histories to support the conclusion that Brundin got it pretty much right 30+ years ago.

To everyone's relief, a version of the Nematocera catalogue left ANIC headed for ABRS a couple of weeks ago. We appreciate **Eva Bugledich**'s dedication to completing the project and thank **Wendy Lee** for helping out in the final stages. Also finishing up was **Erica Willis**, who handed in her honours thesis on the emergence patterns in chironomids from our local few hectares of Gondwana, Blundell's and Lee's Creeks in the Brindabellas.

Geoff Clarke has finished his genetic analysis of *Synemon plana* and the final report has been sent to NSW Parks & Wildlife and Environment ACT. On the Bookmark Biosphere project, **Suellen Grosse** has been appointed to a research support position and will be responsible for sorting and identifying specimens and collating material for inclusion in the WEB-based key for schools.

Marianne Horak is now concentrating on producing her manuscript for the olethreutine volume in the early months of 1999. In early June, **Marcus Matthews** visited The Natural History Museum, London to work on their collection and return part of the very large loan they made to the ANIC for the Australian heliothine Moths project. **Michael Braby** and **Murray Upton** are on track to complete the manuscript for The Butterfly Book by the end of the year. **Lauri Kaila** from the Finnish Natural History Museum, Helsinki, has received a one year postdoctoral fellowship from the Finnish Academy of Sciences to work at the ANIC

Since returning from the UK **Ian Naumann** has been busy assessing the voluminous parasitoid material reared from Australian whiteflies. The spread of spiralling whitefly in north Queensland and the recent discovery of ash whitefly in Adelaide ensures that interest in parasitoids and their biological control will continue. Coincidentally, spiralling whitefly was detected in Cairns while Ian was in the north on fieldwork connected with another Divisional project. European wasps have returned to the spotlight and Ian has been involved in the preparation of a number of reports, briefing documents and research proposals concerning these troublesome pests.

In early August Ian will be seconded to a senior position in the Bureau of Resource Sciences, within the Department of Primary Industries and Energy, Canberra. For 18 months he will be dividing his time between ANIC and the "government" precinct. Ninety percent of his time will be at BRS, leaving **Jo Cardale** and a post-doctoral appointee to hold the fort at ANIC. Jo has just returned from several weeks collecting on Cape York Peninsula. Having dried out, she is resuming work on updates to the wasp volumes of the Zoological Catalogue of Australia.

The Board of Trustees and Fellows of the California Academy of Sciences have recently advised **Dave Rentz** of his election as an Honorary Fellow. Dave has been completing Volume 3 of the Monograph of Australian Tettigoniidae covering the Listroscelidinae, Microtettigoniinae, Meconematinae, and Tympanophorinae. As with most faunistic studies of Australian insects, it is turning out to be much bigger than originally thought. The meconematines have not even been recorded in the literature from Australia and there are four genera here with a number of species. Their arboreal habits suggest that many more species await discovery in forest canopies. The most difficult group, the tympanophorines, are unusual katydids of heathlands; males are fully winged and fly from perch to perch at night whilst the females are wingless and just sit and wait, consuming the male after mating.

The Orthopteroids Project welcomes **Ludy Burger**, Volunteer, to the Project. Ludy is presently dealing with the vast amount of unmounted material that has accumulated over the past several years.

David Rentz and **Bob Lewis** continue progress on the Locust and Grasshopper project. They have assembled the majority of slide and photographic material and now know where there are gaps in the coverage. **Paul Zborowski** visited the Project checking the collection and consulting regarding a booklet he is preparing for the Australian Plague Locust Commission.

Claire Stephens has completed her ANU honours project "Grasshopper assemblages in natural grasslands of differing native plant diversities" and achieved the highest standard for her work. **You Ning Su** has returned to commence a Masters project on nemobiine crickets, the little

black crickets of lawns, pastures, and leaf litter.

Bruce Halliday organised the highly successful 10th International Congress of Acarology, 6–10 July 1998 in Canberra at the ANU.

NEW!: THE ANIC VOLUNTEERS SCHEME.

For many years there has been a growing need for extra curatorial assistance in the ANIC that cannot be provided by the collection staff. To bridge the gap, a new initiative has been taken with the establishment of the ANIC Volunteers Scheme.

With the endorsement of the Unions and CSIRO management, a small number (at least initially) of volunteers will be engaged for up to two half-days per week to undertake a range of curatorial and associated activities in the ANIC. Volunteers will work with one insect order so that a level of familiarity with the order and the work group can be acquired.

Tom van Gerwen, a former long time CSIRO Entomology employee and himself a volunteer, has been appointed as the Volunteers Scheme coordinator, with **Graham Crompton** (the ANIC Manager) having overall responsibility for the Scheme. The Scheme is being established using the resources of **Volunteering ACT**, an organisation with a wealth of experience in volunteer work. Volunteering ACT provides training for those running the scheme and assists with recruitment and advice on the most effective ways to ensure a productive and worthwhile opportunity for everyone offering their help. All ANIC staff look forward to welcoming the volunteers and anticipate a most welcome boost in helping to maintain this unique collection

The **Council of Heads of Australian Fauna Collections** (CHAFC) met at CSIRO Entomology on 9th July.

The next **ANIC Technical Training Course** is planned for the week 21–25 September 1998, coinciding with a semester break at the ANU and cheap accommodation offered by Bruce Hall.

Marcus MATTHEWS
Regional Councillor

NEW SOUTH WALES

Orange Agricultural Institute

John Macdonald and **Danuta Knihinicki** attended the Xth International Congress of Acarology in Canberra in July and presented papers on their work. Returning to Orange, they brought several overseas mite visitors, including **Carl Childers, Hugo Aguilar** and **Raul Villeneuve** from the University of Florida, **Denise Návia** from Aiq-Cenargen, Embbrapa, Brazil and Dr **AM Haq** from University of Calicut, Kerala, India.

Surveys of the Riverina for ash whitefly have been relatively unsuccessful because somebody spread the word that the species was a pest of citrus. Well, maybe it is occasionally, but its main host is *Fraxinus* and it is also a pest of stone fruit and pome fruit. It apparently moves onto evergreens, such as citrus, when its normal hosts drop their leaves. The species has now been found at Dubbo and will presumably surface on ornamental ash trees in places between Dubbo and Wagga (like Orange) next Spring.

Peter Gillespie ran a Western Flower Thrips training course on 29th May at EMAI, Camden. The course was aimed at agricultural inspectors, growers and agricultural consultants.

Murray Fletcher attended a workshop in Melbourne on 9 July designed to develop an internationally acceptable definition of a pest record. This is an essential prerequisite for establishment of trade protocols that have quarantine implications for Australia. The workshop was attended by representatives of State Departments, Universities holding significant agricultural collections, ANIC, AQIS and BRS. It was funded by RIRDC and hosted by **Rob Brown** of AMACS.

NORTHERN TERRITORY

Parks and Wildlife Commission of the NT Conservation Management Unit

It's the fall of Singapore all over again. All eyes were turned towards the approaching army of cane toads, when we were quietly overrun from the rear by pesky big-headed ants. Their main claim to fame is turning pairs of ordinary Y-fronts into really sexy crotchless undies. **Colin Wilson** is providing the money and support for CSIRO's **Alan Andersen** and PhD student **Kate Trumper** to do a trial eradication of the ants from a patch of jungle on a local nature reserve. If it takes a nuclear explosion to end the war, at least we won't have to go far for the raw materials.

Department of Primary Industry and Fisheries Entomology Branch

During early May the branch hosted the 6th

Workshop for Tropical Agricultural Entomologists. There were seventeen participants from; BSES, Tully; QDPI, Mareeba; WA Agriculture, Kununurra; NT University, Darwin and NTDPI&F. Thirty one papers were presented over the week. Topics covered included IPM of tree crops and vegetables, greyback canegrub, biological control of weeds and palm leaf beetle. Mid week was occupied with a visit to Katherine and Douglas Daly Research Farm. All the participants appeared to enjoy the interchange of ideas not to mention the social functions during the evening. The proceedings will be published early next year.

No sooner had the exotic fruit fly, *Bactrocera philippinensis*, been eradicated than the asian honey bee, *Apis cerana,* was detected in the Darwin suburb of Ludmilla. Only one nest of *A. cerana* was found under a house and this has been the only sighting. *A. cerana* carries a number of species of parasitic mites that infect the honey bee, *Apis mellifera* and the mites are not known in Australia. It will be necessary to determine if the asian honey bee has carried exotic mites with it and if the mites have transferred to the honey bee. **Stuart Smith** and **Haidee Brown** have swung into action, every available freezer contains samples of feral and domestic honey bees as well as comb and brood. Haidee has bee entrails and trachea spread all over the laboratory without succeeding in finding any mites, but the hunt goes on.

Deanna Chin and **Heather Wallace** have been working on mango IPM using a green lacewing to control red banded thrips and *Cryptolaemus montrouzieri* to control scales. **Lanni Zhang** is on leave in China. No one has been able to get any sense out of **Graham Young** since he returned from five and a half weeks holiday in the Greek islands.

Territory Health Services
Medical Entomology Branch

The mosquito situation usually levels off in June and this allowed both **Peter Whelan** and **Gwenda Hayes** to take well earned extended breaks. Just before Peter left he attended an AQIS organised Vector Monitoring Working Group in Canberra, along with medical entomologists **Richard Russell** and **Scott Ritchie**. A review of border surveillance around Australia will be carried out to ensure improved measures are in place to prevent exotic mosquito introductions.

Brian Montgomery and **Jane Carter** shared responsibilities for routine operations during June, with the help of mobile phone contacts with Peter and Gwenda, and both seemed very glad of the incumbents' return. Sadly over the period two other staff movements occurred. **Barbara Love** left temporarily on urgent leave for six months and **Ross Nowland** has left permanently to a position with the Conservation Commission as a temporary ranger, finally achieving a long ambition. We are very sad to see Ross leave but no doubt his experiences in the field and laboratory in MEB were seen as a major asset by his prospective organisation.

A position now exists in MEB for someone with mosquito surveillance and control expertise who is willing to work long and irregular hours in mud and crocodiles, interspersed with long periods identifying mosquitoes in the laboratory and good at recording lots of data. If this sounds great ? give **Peter Whelan** a ring on 0889228333.

Peter was only back one day and flew off to a Japanese encephalitis workshop in Cairns organised by Queensland Health. The JE incursion into Qld earlier in the year provided the Branch with grave concerns that the same weather pattern that may have dispersed the virus 300 km south from Cape York could have dispersed it to the Gulf coast of the NT. There is no guarantee that dispersal of this virus could not occur direct from New Guinea or Timor to the NT under future virus amplification and subsequent wind conditions. This has added another dimension to the Branch's surveillance programs.

The Cairns meeting allowed Peter to catch up with **Scott Ritchie** and **Andrew van den Hurk** after the meeting to exchange mosquito species information and specimens and inspect their very successful dengue containment program. This included some hands on, house to house inspection, and house spraying with Andrew, and an inspection with them both on the initial Qld breeding sites of the sibling species of *Anopheles farauti*. A bonus of the inspection was the location of a breeding site and larval specimens of *Aedes alboscutellatus*.

Gwenda Hayes is back in the middle of a plethora of activities including organising the branch day to day activities, preparing and reviewing the branch intra net site, and continuing to organise the branch data base. Gwenda is looking forward to maternity leave in September but it will not come soon enough.

On the mosquito control front a major achievement has been the filling of significant coastal breeding sites of *Ae. vigilax* at coastal Casuarina Beach on Darwin's front door. This has been an achievement for the Mosquito Control Advisory Committee and contributed by the persistence of officers in both the Conservation Commission and Territory Health Services.

Visitors to the branch in July included **Durland Fish** from the Department of Epidemiology and Public health in Connecticut USA. He is involved in Lyme disease and interested in tick and mosquito ecology. He inspected first hand our major mosquito habitats and the habitat for scrub typhus.

Northern Australia Quarantine Strategy

Just when things were winding down in the Top End and **Glenn Bellis** had lined up a three week holiday in the Kimberley, a nest of the dreaded Asian honeybee was found by a local beekeeper. Since then a flurry of bee related activity has kept Glenn and quite a few other people in the Department busy.

The impending operation to extract NAQS from under the wings of the DPI&F and insert it into the foal of AQIS nears. All parties have agreed that it happen as soon as possible but no-one has actually given a time frame. A period of 3 months has been rumoured. I guess nothing happens fast in the government.

Glenn BELLIS
Regional Councillor

QUEENSLAND

CRC for Tropical Pest Management

Federal funding for the CRC for Tropical Pest Management ceased on 30 June 1998. However, joint venture activities between the participant organisations have continued. Official approval has been given to CTPM to fund six on-going activities to 30 June 1999. The six activities are:

* Centre for Identification and Diagnostics of Insects and Weeds (CID) - uses molecular techniques to provide critical information for managing insect pests and weeds.

* Research, Development and Extension Connections (RDEC) - provides communication and coordination activities, facilitation of workshops to plan research design and implementation strategies as well as evaluating social and economic impacts.

* Centre for Pest Information Technology and Transfer (C-PITT) - provides information and training critical to achieving better integrated pest management strategies.

* Virtual Plants - continuing research on developing a virtual laboratory for plant modelling, including canopy microclimate and leaf shape modelling. Plans are also underway for a proposal to establish an ARC Special Research Centre for Architectural Ecology of Plants.

* Host Specificity for Biological Control - continuing research on host specificity testing for biological control agents.

* Heliothis - continuing research on heliothis migration, focussing on the within-season population dynamics of the pest.

For more details on CTPM or any of the ongoing activities, contact **Cathy Simpson** (tel: 07 3365 1876, fax: 07 3365 1855, email cathy@ctpm.uq.edu.au)

Department of Natural Resources

Staff continue to travel in the quest for new insects and as part of international collaborative projects. **Michael Day** has travelled to South Africa looking for biocontrol agents of lantana and has brought back a mirid, *Falconia intermedia*. This will be host tested in quarantine by Mike and **Tandy McAndrew** for possible release. **Graeme Donnelly** and **Rachel McFadyen** have also been travelling, the former to Papua New Guinea with the ACIAR Siam weed project and the later to China for an IPM conference and meetings with local weed biocontrol workers.

The prickly acacia group has been busy with new staff appointed (**Virenda Pratap**) and quarantine testing going on for three species. *Acizzia* sp. (Psyllidae) has recently been received into quarantine, while two geometrid species are nearing the end of their tests. **Bill Palmer** has travelled north to attend field days and spread the good word about prickly acacia biocontrol, while **Helen Nahrung** has finished her honours project on the prickly acacia leaf beetle, *Homichloda barkeri*. Finally, we all know biocontrol can take a long time and prickly acacia project staff are endeavouring to ensure their long-term existence by supplying scientists for the future. Congratulations to **Austin McLennan** and his wife Narelle for a new baby girl, Emma.

Queensland Museum

Museum staff have been quietly plugging away as usual. **Chris Burwell** and **Phil Lawless** spent a week in central Australia with Channel 10's Totally Wild Kids environmental program filming stories in the Simpson Desert. Chris reckons they didn't see many insects but the birds were OK and the experience fun. Arachnologists **Robert Raven** and **Mary Whitehouse** have both recently had overseas trips. Robert to N.Z., U.S. and European museums to study types of ground dwelling spiders, Mary to the International Arachnological Conference in Chicago. Mary presented a poster on the Australian Social spider, *Argyrodes flavipes*.

University of Queensland
Department of Entomology

Review and restructuring has been the flavour of the month at UQ recently. In April, **Dinah Hales** (Macquarie Univ.) and **Mike Claridge** (Univ. of Wales, Cardiff) were involved in a Departmental review which saw lots of paper shuffling and soul searching. Despite an apparently favourable outcome of the review, the Department is now caught up in a Faculty-wide reshuffle. A merger with any of a number of other departments (Zoology, Parasitology, Botany, Microbiology, etc) is definitely on the cards. Watch this space for the fate of the last surviving entomology department in an Australian university.

Between the reviews life goes on. **David Yeates** has returned to the department after 6 months sabbatical in the USA. Dave apparently enjoyed himself, particularly the rather novel aspect of being able to do personal research. We have had a number of international visitors over the last few months including **Zhai Baoping** (Nanjiing Agricultural University), **Qu Xifeng** (Chinese National Agrotechnical Extension Service), **Roy Norton** (State Uni New York) and **Marjeta Jeraj** and **Spela Pehani** (Slovenian Institute of Biology). **Hugh Dingle** (UCLA Davis) has just left us after spending 12 months here on sabbatical. Having one of the world's great insect migration experts in the Department for 12 months was a very worthwhile experience. We all learnt a lot about birds.

The medical entomology group is expanding with the appointment of **Evan Schmidt** to a 2.5 year NH&MRC funded post-doc looking at the taxonomy of the *Anopheles punctulatus* group and **Kathryn Bryant** to an illustrator's position. Kathryn is working on a Qld Health funded project developing an interactive key, CULUCID, to identify the mosquitoes of Torres Strait.

Des Foley, Joan Bryant's long time right hand man, is now Dr Foley after getting his PhD and is busy trying to keep track of his various grant commitments. Joan, herself, is just back from Vietnam where she helped review an AusAid funded malaria control program.

Finally congratulations to two recent graduates of the Department, **Christoph Pavey** and **Mustapha Jallow**, who have both won Humbolt Fellowships for post-doctoral work in Germany. Well done also for **Manthana Milne** who has had her PhD awarded for the thesis: "Species status, host-plant relationships and predatory behaviour of *Frankliniella schultzei*".

Joint Aust Ent Soc Annual Meeting/AAERC.

Progress for the joint meetings is coming along apace. Papers for the AAERC are finalised and are very close to being finalised for the AES meeting. Registrations keep coming in and by half way through July stand at 116 for the AAERC only, 32 for the AES only and 86 for both. Brisbane in September is superb (an unbiased view from the local councillor) and with great scientific and social programs these are meetings which should be on everyone's schedule.

Tony CLARKE
Regional Councillor

Bureau of Sugar Experiment Stations

BSES entomologists **Peter Allsopp, Peter Samson, Keith Chandler, Les Robertson, David Logan** and **Peter Twine** had their fill of planning and review meetings in Townsville and Ayr in June. The week started with 2 days of planning meeting, mapping out the next 5 years of research on canegrubs and other pests. The next day saw reviews of 5 projects funded by Sugar Research and Development Corporation in front of reviewers including **Rhondda Jones** and **Garry Fitt**. Others involved in the reviews were **David Dall, Joan Lai-Fook** and **Richard Milner**, who appreciated the change in climate from wintery Canberra. Thursday and Friday saw inspections of field trials and presentation of research results to farmers in the Burdekin where greyback canegrub is causing considerable damage.

Keith Chandler travelled to Ramu Sugar in Papua New Guinea in July to participate in a

review of *Sesamia*-borer control and plant breeding work. While there, he caught up with **Lastus Kuniata** whose PhD on *Sesamia* is nearly completion.

QDPI

Merv Bengston retired from the DPI in early July after a distinguished career spanning almost 50 years (see photo below). Merv joined the old Dept of Agriculture and Stock as a boy cadet. He worked in Brisbane while studying for a degree, and then moved to Stanthorpe/Applethorpe where he spent 14 years working chiefly on pest management on deciduous fruits. During this time he worked for and was awarded an MSc, and a PhD for research into the biology of two-spotted mite. Merv returned to Brisbane in 1979 to tackle a series of roles in the entomology section at Indooroopilly. Merv was the Director of Entomology Branch from 1989 to 1992, a job he relinquished when the Branch disappeared in one of the many departmental reorganisations suffered in this age of managerialism. He remained as Chief Entomologist, and continued his work on stored product pest control, particularly in developing effective grain protectant treatments and ensuring the efficacy of grain fumigants. For many years he was the Convenor of the National Working Party on Grain Protection which comprises representatives of the grain handling authorities, grain marketing boards, regulatory authorities and researchers from Departments in all mainland states, and CSIRO. The Working Party has had a significant role in ensuring that effective treatments have been available to enable grain to be exported at a standard of a nil tolerance for live insects. He has lead a series of ACIAR projects involving work in China, India and throughout Southeast Asia. Merv's contribution as convenor of the National Working Party on Grain Protection was honoured at a dinner in Canberra in May. Many of his current and former colleagues in DPI gathered for a farewell lunch at DPI Indooroopilly on the day before his retirement to reminisce and wish him well. We wish Merv a long, happy and healthy retirement. May the winds blow favourably!

DPI Chief Entomologist Merv Bengston (centre) says farewell.
With Merv are former DPI Entomology Branch Director, **Tom Passlow**, and Senior Entomologist **Marlene Elson-Harris**.

Roger Broadley, Dan Smith and the rest of the citrus team have released another citrus book. *Citrus pests - a field guide* is a magnificent, robust little book packed full of photographs and descriptions of numerous citrus pests. It is available from QDPI Publications for $20, and it is well worth it.

Pauline Peterson and **Bob Corcoran** from the post-harvest disinfestation group at Indooroopilly attended the Fifth International Symposium on Fruit Flies of Economic Importance held recently in Penang, Malaysia. Bob then went on to Thailand to coordinate activities for their ACIAR project on low cost heat treatment systems for fruit flies.

Queensland Horticulture Institute's Gatton Research Station was invaded by entoids (to use an extension officer's crass term) in May for a heliothis management in sweet corn workshop as part of an HRDC project lead by **Peter Deuter**. Those who attended from all over eastern Australia included **Sandra McDougall, Peter Ridland, Siva Subramaniam, Mark Smith, Lionel Hill, Peter Room, Bronwyn Houlding, Brendan Nolan, Iain Kay, Brad Scholz, John Brown, John Duff** and **Larissa Bilston**. Consultants **Chris Monsour** and **Richard Llewellyn** were there, as were **Greg Wells** and **Jules Guerassimoff** from the chemical world. The workshop coincided with Expo 15, a large horticultural exposition held biennially at Gatton so many of the workshop participants also toured the Expo. **Mali Malipatil** also was at Expo 15, demonstrating the evils of Western flower thrips to all who passed near.

Bernie Franzmann and **David Lea** spent two weeks in mid May touring Qld surveying for silverleaf whitefly, and discussing the SLW management project with collaborators **Keith Halfpapp** in Mareeba, **John Brown** in Ayr and **Iain Kay** in Bundaberg. Bernie then disappeared to Europe for several months long-service leave.

Graham White has rejoined DPI grain storage group, this time in the guise of extension entomologist based in Toowoomba. One of his first jobs was to join **Dave Murray** in the GRDC adviser update series of seminars in Queensland to talk about resistance and management of grain pests (Graham) and heliothis (Dave).

The grain storage group (**Merv Bengston, Pat Collins, Greg Daglish, Graham White**) left sunny Queensland to visit chilly Canberra at the end of May to participate in the National Working Party on Grain Protection and to present papers at the Australian Postharvest Technical Conference. Pat's and Greg's data on recently detected high level resistance to phosphine fumigant aroused considerable interest.

Who cares about officially-approved itineraries for overseas trips and sticking to them? **Geoff Waite** travelled to the Philippines in June to check on progress of the ACIAR Project "Development and evaluation of sustainable farming systems for steeplands". The PAL pilot strike threatened to maroon him in General Santos, Mindanao, but luckily, an unscheduled cruise through the islands on an inter-island ferry saved the day(s). On leaving Manilla bound for Guangzhou, a nine hour wait was in store while a jumbo which had run off the runway, was removed. That meant missing the connecting flight in Hong Kong, necessitating clearing immigration and checking back in on a later flight to Guangzhou. But that wasn't all as the other Aussies at the Guangzhou IPM Conference can attest. On checking in, a demand was made for US$650 for registration and accommodation, an amount that was 'paid' by faxed credit card transaction a month before. Trouble is the Chinese were unable to process such a transaction. Being out of cash and somehow having ended up with his wife's Mastercard, Geoff was saved by his QDPI colleague **Dave Murray** who managed to come up with the required amount. A traumatic finish to an eventful trip! Geoff wins the Susan Kurosawa traveller of the quarter award!

Geoff Waite and **Russell Parker** braved the frigid climate of Canberra during early July to attend the 10th International Congress of Acarology. Geoff presented a paper on the biological control of spider mites in strawberries using the "pest-in-first" technique. (Three groups of Queenslanders report trips to Canberra. Isn't it strange that all of them preface the name of the national capital with seasonal adjectives.)

Dave Murray reports that Australians were well represented at the International Conference of IPM held at Guangzhou, China, on 15-20 July. For some it was a chance to catch up with 'local' entomologists, something which normal routines seem to make more difficult these days. Formal gatherings attracted presentations on pest management issues across a wide range of tropical crops, while informal meetings compared preferences for Chinese beers and cuisine. The beers were rated well, but munching large dytiscid beetles was compared to eating prawn shells.

Bugs For Bugs

During June **Dan Papacek** visited citrus growing areas in Spain and Israel where there is interest in adopting an IPM package similar to that offered the Qld citrus industry by Bugs for Bugs. Dan also reports an outbreak of South African entomologists in the Burnett district. No South African visitors for three years and then two, travelling independently, in one week! They were **Tony Ware** and **Tim Grout**, both from Outspan at Nelspruit.

Private

Angus Hutton FZS, FRES, formerly of Africa, India and Papua and New Guinea but now living near Gympie, contacted me some time ago about his recent activities. (I apologise to Mr Hutton for my tardiness in reporting his correspondence.) Angus pioneered and established the butterfly farming industry in PNG on behalf of the PNG government. The insect Farming and Trading Agency, the organisation he founded in December 1974, is still active. It currently is cooperating with in the AusAID-funded Oro Conservation Project, the focus of which is to study and help conserve the magnificent Queen Alexandra Birdwing butterfly. A report on the project, *The world's largest butterfly still flies in PNG*, appeared in the March 1997 edition of *FOCUS*. The project is of great interest to Angus because as a consultant he helped to formulate the guidelines for the project in 1992. He also has carried out consultancies for the Malaysian, Sarawak, and Indian governments, as well as for the governments of several Indian states.

Angus officially retired many years ago. However he maintains a keen interest in Lepidoptera, undertakes consultancies on wildlife conservation, is a casual inspector for the DPI Animal and Plant Health service and is the District pasture Inspector. He runs a zebu Red Sindhi stud on his farm near Gympie.

Iain KAY
Regional Councillor

SOUTH AUSTRALIA

Ron Southcott, an eminent naturalist, medical entomologist and scientist passed away in April at the age of 79 after a long struggle with illness. The Southcott family has made a large donation of books, papers and journals to the Mosquito Research Unit at the University of South Australia. Once this medical entomology collection, called the Ron Southcott Collection, has been catalogued, an index will be published to enable access by other Australian scientists. It has been a humbling experience to go through the papers and notes of this exceptional Australian scientist.

Michael KOKKINN
The University of South Australia

Department of Crop Protection The University of Adelaide

In early July, **Gary Taylor** attended the Biological Informatics Conference at the Australian Academy of Science, Canberra. While there he visited **Peter Cranston** at ANIC to look at gall-forming fergusoninid flies, and called on **Ebbe Nielsen** and **John Lawrence** with specimens of microlepidoptera and beetle inquilines reared from fly galls.

In July **Kerrie Davies** was in Brisbane to work with **Matthew Purcell** and **Jeff Makinson** of the USDA Australian Biological Control Laboratory at CSIRO Indooroopilly, on the biology and ecology of *Fergusonina/Fergusobia* galls on *Melaleuca quinquenervia*. **Kerrie Davies** and **Mike Hodda** (Entomology, ANIC) are planning to run a short course at the University of Adelaide in December 1999 on sampling, culturing, and identification of soil nematodes.

On 21st July, Lacy-winged Seed Flies were released for the control of Boneseed by **Aline Bruzzese** (Keith Turnbull Research Institute) and **Rick Roush** (CRC for Weeds Management Systems) at Morialta and Belair Conservation Parks. The event was witnessed by representatives from the Crop Protection Department, the Animal and Plant Control Commission (PISA), National Parks and Wildlife, SA, and an excellent turn-out from the media. Aline's flight into Adelaide, with an esky (= "chullyben" in NZ) laden with flies as hand luggage, was delayed until she could convince the flight crew that the flies were quite host-specific to Boneseed, would not contaminate airline food, nor compromise the hygiene of its passengers! In late July, Gary Taylor, sponsored by CRC Weeds, visited KTRI, to investigate methods for monitoring the establishment of the fly in South Australia.

Latif Salehi has submitted his PhD thesis entitled "An investigation of the efficiency of two parasitoids of potato tuber moth, *Apanteles subandinus* and *Orgilus lepidus*" and **Graham**

Lewis has just completed his honours thesis on the "Development of a protocol for sampling arthropod diversity in native vegetation". Graham received a First for his project which has examined the complementarity among arthropod collecting techniques.

Entomology Unit, SARDI.

Tim Grout, visiting from South Africa in early July, shared his considerable citrus IPM experience with **Greg Baker, Andrew Green** (SA Citrus Board), **Mike Keller** (Univ of Adelaide), **Darryl Jackman** and **Peter Taverner** in Adelaide, and accompanied Greg and Darryl to the Riverland for first-hand observation of SA citrus IPM and commercial insectary facilities with **Geoff Furness** (SARDI) and **James Altmann** (Biological Services, Loxton).

South Australian Museum

Archie McArthur and **Shelley Barker** drove to Western Australia and joined a camp with members of the WA Naturalists Club at Jourdie Station, near Southern Cross at Easter. At the end of the camp Archie flew back to Adelaide from Kalgoorlie with a good bag of ants and Shelley continued on alone through the Kimberleys and Northern Territory, returning to Adelaide at the end of May. Archie spent a week in Canberra with **Steve Shattuck** of the ANIC working on a joint paper on ants.

Jan Forrest and **David Hirst** carried out field work in the Innamincka Regional Reserve with members of the Waterhouse Club during April and May. The collections made were generally poor due to low biodiversity in the area.

In July, Professor **Rudolph Abraham** from Hamburg University and Museum and his wife Gizela visited the Museum to examine the collection of parasitic Hymenoptera. He was given a grand tour of the South-east districts by **Archie McArthur**.

Animal and Plant Control Commission Primary Industries South Australia

Peter Allen, now involved in the management of exotic vertebrates and weeds in South Australia, presented the opening key-note address for the 11th Australian Vertebrate Pest Conference held in Bunbury in May: "The Future of Vertebrate Pest Management - Where should we be going?". Issues in his address included changes in pest occurrence, IPM, economics of pest control and adaptive management - many of the principles based on his experience with insect pest management and its attendant challenges.

Gary TAYLOR and Paul DANGERFIELD
Regional Councillors

TASMANIA

Forestry Tasmania

A meeting of Tasmanian Entomological Society members held at Forestry Tasmania was addressed by visiting entomologist, **Prof. Tom Whitham**, Regent Professor at North Arizona University, on "Mammal browsing benefits beetles and the role of plant ontogeny on arthropod communities". We decided that none of our mammals performed a role similar to the beaver but that fires may cause a similar rejuvenation of plant growth that promotes insect diversity. **Humphrey Elliott** has been in demand in Kalimantan to advise on an ACIAR project on the threat of existing pests to *Acacia* and *Eucalypt* plantations, and later was invited to Chanthaburi, Thailand, to give paper at the IUFRO workshop on Pest management in tropical forest plantations. Keep an eye out for a new entomological publication, Insect Pests of Australian Forests, the fruit of many years of hard labour co-authored by **Humphrey Elliott, Ross Wylie** and **Cliff Ohmart,** published by Inkata Press, Singapore. **Dick Bashford** has been surveying the state *Radiata* plantations for *Sirex* and has located a few small populations that should be controlled by the natural parasitoids. So far there is no sign of the new pine aphid (?) recently found to be wide-spread in most of the eastern states. He has also been busy organising a workshop on Autumn gum moth held in Mildura to discuss monitoring and control options for this important pest of young blue gums; delegates from all states are attending, including **Dick** and **Jane Elek, Geoff Allen and Zoltan Lukacs** from the Tasmanian CRC-SPF.

North Forest Products

Brian Selman of University of Newcastle-on-Tyne visited NW Tasmania with his wife, Margaret, and stayed with **Dave de Little**. Brian is the world expert on paropsine taxonomy. Brian gave a talk on paropsine diversity to the fledgling NW Branch of the Royal Society of Tasmania which was well received.

Department of Primary Industries and Fisheries

Margaret Williams thought Hobart wasn't cold enough in July so headed to Canberra for the International Congress of Acarology followed by a week with AQIS working on Pest Risk Analyses. **Trevor Semmens** was seconded to a stream quality monitoring unit for three months followed by two months long service leave. In spite of this long break from entering database records, he has converted 18 of the 20 volumes of the Tasmanian Insect Pest Survey to electronic form. **Lionel Hill** is breathing a sigh of relief at having come through another growing season with no new Western Flower Thrips outbreaks. In fact the number of quarantine sites decreased from three to two since the original site was demolished for housing.

University of Tasmania
Department of Agricultural Science/
Resource Protection Program
at the CRC for Sustainable Production Forestry.

Tasmanian entomologists have generally stayed at home over the winter catching up on data collected over the busy summer months; however many are looking forward to travelling overseas in September to catch up with colleagues at the various entomological meetings in Brisbane. **Tara Simmul** has recently 'harvested' the surviving larvae from her major provenance trial of silver wattles, *Acacia dealbata*, looking at the feeding performance of fireblight beetle, *Acacicola pyrgoides*. She now has many months to be spent on leaf chemistry, measuring various parameters and analysing the trial to discover what it all means! **Zoltan Lukacs** is progressing through the writing up stage of his PhD on Autumn gum moth, *Mnesampela privata*, and **Bradley Howlett** is also writing up his PhD thesis on oviposition behaviour of the leaf beetle, *Chrysophtharta bimaculata*. **Natasha Beveridge** (Forestry Tasmania) has recently enrolled in a part-time PhD to work on the biology and biocontrol of another leaf beetle, *C. agricola*. **Luke Rapley** (Hons) has been putting his Autumn gum moth larvae and pupae through various trials to look at their feeding on juvenile and adult foliage, as well as the pupal diapause. **Prof. Tom Whitham**, Regent Professor at North Arizona University, took a three month a sabbatical at the University to continue his investigations into the interactions of insect communities on hybrid eucalypts, and supervised honours student, **Rachel Lawrence**. He gave two seminars at the university and two others to the Ecological and Entomology Societies on various aspects of insect herbivore-hybrid plant interactions. **Dr Brian Selman** (University of Newcastle upon Tyne) visited the CRC in July to discuss research with staff and students and presented a talk on the joys of chrysomelid taxonomy. **John Madden** continues to make regular forays south from Queensland's sunshine coast for Forestry meetings, to catch up on research activities.....and to lay claim to some gear/specimens ferreted away in all sorts of pockets around the University! **Geoff Allen** and **Marina Hurley** both gave seminars to on their achievements prior to taking up their appointments in Tasmania. Since then they have been busy with teaching and organising new entomology courses for undergraduates whilst developing their own and graduate student research plans for projects in forestry and in collaboration with the newly created Tasmanian Institute of Agricultural Research (TIAR).

Bob Hardy
Specialist Agricultural services Pty. Ltd.

The summer and autumn have been entomologically interesting. First, the aphid, *Uroleucon sonchi*?, previously unknown in Tasmania before 1997-98, arrived in lettuce fields at Cambridge. Lettuce and sow thistle, the latter being the host of the serious lettuce necrotic yellows virus, are both hosts of this aphid and it therefore has the potential to make a major change to the aphid/ virus problem in lettuces. A trapping program has been implemented to gain more information on this pest. I would be very pleased to hear from anyone with experience with *Uroleucon* in lettuce. In the late autumn the forage mite, *Tyrophagus similis*, invaded baby spinach in large numbers. Baby spinach is one of a number of "new salad vegetables" grown in this state and as a result we are being challenged by numerous new pest / host plant problems.

Jane ELEK
Regional Councillor

VICTORIA

IPM Technologies Pty Ltd.

Paul Horne and **Cindy Edward** had a few days to show **Tim Herman** from Crop & Food Research

in NZ what they were doing with IPM in potatoes. Tim had a flying 4 day visit in May. They met a few growers successfully using IPM and Tim went back to NZ to see about establishing a similar program there. They also ran a one-day course on IPM for potato growers in the Murray Bridge area of SA. In addition to the potato work, Paul and Cindy have finished field work in a short project looking at pest and beneficial invertebrates in native grasslands. A conference on grassy ecosystems in early July included entomological contributions by Paul and **Peter McQuillan**.

Agriculture Victoria, Institute for Horticultural Development, Knoxfield

David Williams met with the rest of the WWAPM project team in Perth. The WWAPM project was commissioned by HRDC for the Australian Apple and Pear Growers Association to develop integrated management of weevils, woolly aphid, and powdery mildew. The project has now finished and the meeting in Perth was to put the final integrated package together. **Stewart Learmonth** did a great job with the venue, accommodation and keeping everyone entertained. The team worked together really well and will have a final report completed by the end of September. As this goes to print Dave will be heading off to visit the East Malling site of Horticultural Research International and to attend the International Conference on Integrated Fruit Production.

Institute of Sustainable Irrigated Agriculture Tatura

Alexandre Il'ichev reports on the 1997/98 results of Wide Area Mating Disruption at Cobram. The experiment on Wide Area Mating Disruption (WAMD) was conducted in 773 hectares on 18 different orchards in the Cobram region in Northern Victoria during the 1997-98 season. The area included 549 hectares of peaches and nectarines which had been treated with mating disruption (MD) in previous seasons. The balance (224 ha) of the WAMD included pears and apples, plums and apricots which had not been treated with MD previously. The entire area was saturated with OFM pheromone by treating every fruit tree at the recommended rate of 4 lures of "Isomate OFM Plus" per tree.

The area has been closely monitored for OFM throughout the season with 236 food and 29 sex pheromone traps. The results of detailed monitoring and mapping by food traps within WAMD indicated 2 distinct hot spots and 4 places with edge effects. All 4 places with edge effects and 1 hot spot were controlled by the end of the season due to WAMD application, however some farmers reported that shoot tip and fruit damage has recently occurred in the edge of peach blocks with MD adjacent to fruit blocks where chemical control is used.

The discussion with growers, scientists and industry representatives at an OFM technical workshop on 28/05/98 at ISIA helped to direct the analysis of the WAMD project and begin the development of new plans and experimental design for next season.

Keith Turnbull Research Institute

The Institute was recently traumatised by a proposal to relocate functions to other Agriculture Victorian Institutes at Rutherglen and Knoxfield. However the importance of statewide and national research programs in integrated weed management and the national significance of the quarantine facilities, has meant that the relocations will not occur. Instead KTRI will link its research more closely to other Agriculture Victoria Institutes with IPM research programs, especially IHD Knoxfield.

Robin Adair, **Aline Bruzzese**, **Jenn Carruthers** and **Ian Faithfull** recently made the first Australian releases of *Mesoclanis magnipalpis*, the lacy-winged seed fly, a biological control agent for the environmental weed boneseed, *Chrysanthemoides monilifera*. Initial releases were made at the You Yangs and Frankston, and further liberations were expected to occur in South Australia in late July, with the help of **Rick Roush** of the CRC for Weed Management Systems and other enthusiasts. Another species, *M. polana*, the bitou seed fly was host-specificity tested at KTRI and released on the NSW coast in very small numbers in 1996. It dispersed at the rate of 400 km per month. It is now infesting 80% of flower heads at study sites and dramatically reducing seed production. This is the most successful *Chrysanthemoides* agent so far, but others in various stages of development and testing look even more promising.

Brad Roberts has taken over some of the duties of **Peter Stevens** in the thistle biocontrol unit. After 29 years with the Department, Pete has accepted voluntary redundancy. Rearing, releases and monitoring of spear thistle gall fly, receptacle

weevil and other insects will continue, but site managers will be expected to do more of the monitoring and redistribution.

Ian Faithfull is continuing to release dock clearwing moths, delivered to Victoria as eggs from Agriculture Western Australia. The insect appears to be establishing at some sites and has dispersed at least 80 metres in one horse paddock. Ian continues to produce "Under Control - Pest Plant and Animal Management News" which contains many stories on insect agents for weed control and updates on invertebrate pests projects.

A new project on gorse biocontrol will be commencing in the spring with **Raelene Kwong** expected to take the reins. Manaaki Whenua Landcare Research New Zealand has been pursuing this area for some years and substantial impact is now being observed across the Tasman. The host specificity testing for Australia is being undertaken in New Zealand and the gorse spider mite, the first new agent since the gorse seed weevil (released Tasmania 1939), will probably grace our shores in the next few months.

Nicole Freeman made the first Victorian release of the broom bruchid, *Bruchidius villosus*, last summer and has developed mass rearing facilities to enable redistribution of the twig-miner, *Leucoptera spartifoliella*.

David McLaren is increasingly turning his attention away from ragwort to the control of introduced tussock grasses. **John Weiss** is concentrating on a weed impact assessment project which promises a better system for targeting new and developing pest plants in Victoria.

Research on European wasps at KTRI is on hold, awaiting the funding and development of a national program. **Patrick Honan** has departed to a position as Keeper of Invertebrates at the Melbourne Zoo, where he is having great fun breeding spectacular insects for the displays, but faces the same hard facts in regard to money. **Greg Lefoe** and **John Stoner** have been running a very successful series of workshops on elm pests and diseases. The devastation caused by Dutch elm disease in the northern hemisphere has left Melbourne with some of the world's best elm trees, and the Melbourne City Council in particular has been keen to protect them. The elm leaf beetle has continued to spread into Gippsland and several municipalities are now gathering degree-day information to enable appropriate timing of control measures.

Department of Biological Sciences
Monash University

Amanda Hosking who is in the final stages of writing up her Masters has been lured to AQIS and is training as a quarantine and inspection officer, while **Paula Peeters** has made some progress in the writing up of her PhD thesis titled "The influence of leaf structure on the herbivorous insects of a temperate forest understorey". **Fiona Clissold** is analysing results from digestibility experiments performed on Australian plague locusts in the first half of the year.

CRC for fresh water ecology

Kyla Finlay is frantically preparing a paper and talk for her attendance at the International Ephemeroptera Conference in Argentina at the end of August. In between this she spends most of her time at the microscope identifying new species of mayflies. **Eddie Tsyrlin** gave the first version of his *Leptoperla* key to people in EPA, Ecoscience, Murray-Darling Freshwater Centre to try out. He will be presenting his work on the key to *Leptoperla* and *Riekoperla* genera of stoneflies at the XIII International Symposium on Plecoptera in Argentina in August. **Natalie Lloyd** is currently on holidays. Recently she has spent some time analysing data from her first season's samples and has been getting the results she anticipated. More bug picking beckons however.

Nancy ENDERSBY and Robyn COY
Regional Councillors

WESTERN AUSTRALIA

A small band of West Australian entomologists will be heading east for the AES and AAERC conferences in September/October. This includes **Debbie Thackray, Francoise Berlandier, Ian Dadour, Owain Edwards, James Ridsdill-Smith,** and possibly a few others. They look forward to catching up with their eastern counterparts during this period.

AgWA

Rob Emery went to the Australian post-harvest Technical conference in Canberra, May 1998, and presented a paper on the Australian Grain Insect Resistance Database. He spoke to **Steve**

Shattuck (ANIC) about reference collection databases. **Darryl Hardie** and Rob have developed a semi-quantitative pest threat database for ranking quarantine pests not in Australia. Overseas experts will be able to test it by filling out the questionnaire over the internet.

Debbie Thackray will be catching up with **Richard Harrington** at Rothamsted whilst on holiday in the UK in August. She'll be talking to him about developing a decision support system for barley yellow dwarf virus control in cereals.

Entomologists **Mike Grimm** (ex-Albany) and **Phil Michael** (ex-Perth) swapped workplaces in July 1998. The group at South Perth are sorry to see Phil leave for the south coast of WA, but welcome **Mike Grimm** and look forward to his contributions to the branch.

CSIRO

John Scott has left Australia to take up his new position at CSIRO Montpellier in France. **James Ridsdill-Smith** will be adding to his workload and adding a new dimension to his career (but still remaining a Entomologist at CSIRO) by accepting a position on the Western Panel of the Grains Research and Development. Congratulations to James.

WA Museum

In April, electronic databasing of the Museum's collection of bees, estimated at around 20,000 specimens, commenced as part of a project made possible by funding from the Gordon Reid Foundation for Conservation. The project was initiated by **Terry Houston** and the W.A. Insect Study Society. The Society's grant of $29,000 has enabled the engagement of a computer data processor, **Tricia Gardner** for twelve months and, at the end of the project, will enable publication of a synopsis of flower-visitation by Western Australian native bees.

Françoise BERLANDIER
Regional Councillor

OVERSEAS NEWS

PAPUA NEW GUINEA

Samson Laup has been awarded a PhD degree in Insect Pathology by the Imperial College or Science, Technology and Medicine, London. The title of his thesis was "Effects of the Entomopathogenic fungus *Beauveria bassiana* on the Cocoa Mirid *Pseudoniella typica* (Hemiptera: Miridae) in PNG". Samson is the first Papua New Guinean to be awarded a PhD degree in Insect Pathology.

DAL's old research programs were reviewed for refocussing by NARI (National Agricultural Research Institute). In comprehensive reviews held from July 13-16 at Bubia and Keravat, it became clear that, in view of the so-far unsolved taro beetle problem, Taro growing in PNG is a dead-loss to the farmers who are now switching on to yam cultivation. An integrated approach to Taro growing was recommended. The establishment of a Mass Rearing Unit to rear all the insects required for NARI projects was recommended. Old DAL projects were to continue while new projects would undergo scrutiny at a subsequent review.

The fruit fly research in PNG under the "Regional Management of Fruit Flies in the Pacific" (RMFFP), initiated in May 1997 is in full swing. The national staff in the project includes two senior entomologists, two newly recruited Junior Scientific Officers and, eventually, three technicians and several labourers. A fruit fly newsletter called *Infofly PNG* is produced by **Luc Leblanc**, United Nations Volunteer working for the RMFFP at LAES, Keravat.

Ray KUMAR
PNG Correspondent

FASTS NEWS

(Federation of Australian Scientific and Technological Societies)

1. THE BERD HAS FLOWN

Australia has just recorded its first fall in business expenditure on R&D (BERD) since the Australian Bureau of Statistics began measuring R&D in the mid 1970s. This is another gloomy sign for Australia's economic outlook, and a bad sign as we enter a millennium which is going to place an increasing emphasis on industries that are sophisticated, intelligent and sustainable.

It increases pressure on the Federal Government to bring forward reform of the tax system, to remove disincentives to business to invest in the industries of the future. It is clear that industry in Australia does not have the confidence or conviction to invest in R&D under the present

financial settings and economic climate.

The Asian currency meltdown is outside the Government's control, but we can do something about a tax system which seems almost perverse in its inability to encourage innovation. Addressing the capital gains tax issue would be a start. Industry will respond to the right settings. The CRC Program is a well-tuned government incentive. Its success is demonstrated by the fact that 147 groups have already indicated they will compete for the 30 places available in the next round of selections, with a closing date for applications of September 30.

A fall in BERD was widely predicted since the abolition of the 150 per cent tax deductibility for industrial R&D in the 1996 Budget, and its replacement by the START Scheme. START is the latest in a long line of incentive schemes and I hope it will take effect now that it is fully in place. START has been slow to bite so far, with $50 million being returned to Government coffers because it was not taken up last financial year. The decrease in BERD does need to be read with caution, because the fall in 1996-97 was exaggerated by an unusually high figure for 1995-96 but the figures confirm an unacceptably low performance in the international arena. Last year Australia outranked only China, Italy, India, New Zealand and Spain in an comparison of BERD in 24 countries from the OECD and Asian-Pacific region.

2. PM'S SCIENCE, ENGINEERING AND INNOVATION COUNCIL

The newly expanded PMSEIC is one of the successes of this Government. As one participant said, it has moved beyond the "Little Golden Book of Science" for Ministers to a body where significant national issues are raised and acted upon. The Committee structure recommended by John Stocker, the inclusion of more of the major players in the S&T world, and the personal commitment of the Prime Minister have all been important ingredients in this. Some excellent papers were presented at the last meeting, notably by ARC Chair Vicki Sara on the interactions between industry and universities; and Academy of Technological Sciences and Engineering President Tim Besley on the nexus between science and its applications. I am chairing the first sub-committee established by PMSEIC, to investigate solutions to the salinity issue in Australia.

All PMSEIC papers are now available at:
http://www.dist.gov.au/science/pmseic/pmseic.html

3. GST TAX AND RESEARCH

I am in the final stages of preparing a letter to the Treasurer on the implications for scientific research of a GST tax. There are a number of questions to be answered before scientists and technologists can express any opinion on the GST. These include:

1. Will a GST act as a disincentive for interaction between the university and business sectors, by being applied to consultancy agreements without any compensating advantages?
2. Will universities and other research agencies be exempt from GST as they are from sales tax? Will they be 'zero rated' in most areas, and what will any exceptions be?

FASTS is approaching this issue with some caution, despite assurances from our colleagues in New Zealand that the tax has been widely accepted in that country.

4. REVIEW OF AUSTRALIAN RESEARCH COUNCIL

I met with David Penington to discuss future directions for the ARC, as part of a review of its organisational structure initiated by the ARC. A draft paper has been circulated. When this report is finalised in mid-July it will be incorporated in the Council's Strategic Plan and general comment will be invited.

5. NEW ISSUES FOR THE FASTS' BOARD

The Board has invited Merilyn Sleigh (Dean of Life Sciences UNSW) to address its next meeting on one of the "issues of the future". Her talk will discuss how Australia might cater for new and developing disciplines and subject areas that perhaps are not well served by the traditional disciplines. One problem facing a new career scientist is that the most promising areas are multidisciplinary. This discussion will be developed at Council in November, with the possibility of developing this discussion at a general forum early in 1999.

6. SCIENCE NOW!

Melbourne organisers of Science NOW! in Science Week report over 260 media "hits" to give good coverage of this new-look science forum. The Fresh Scientists - those younger scientists who

had presented stimulating papers at conferences - gained excellent coverage, and organisers are looking to boost this section in 1999. I am one of the members of the Forum's board, along with the Presidents of the two science academies, the Science Communicators, the National Press Club and ANZAAS.

7. MEETING WITH DIST

Together with Joe Baker and Toss Gascoigne, I met with four officers from DIST led by Paul Wellings last month. The informal meeting raised matters of concern to both sides, and it was agreed to keep details confidential to enable frank discussion. The meeting discussed venture capital and commercialisation and may lead to a joint study on the impediments to commercialisation for working scientists. FASTS raised the issues of possible impacts of a GST on research organisations, and a funding mechanism for major national research facilities.

8. GRAHAM JOHNSTON AM

Congratulations to former FASTS' President Professor Graham Johnston, who was awarded an AM in the latest honours list for "Service to bioorganic chemistry and pharmacology, to scientific organisations and science policy development". Graham presented the first FASTS' policy document "A Science Policy for Australia in the 21st Century" to the Australian Government in June 1995 signalling FASTS taking a new proactive role in science policy development. He continues to run the FASTS' web site.

Other scientists to be honoured in the Queens' Birthday list included Professor Antony Burgess (AC) Ludwig Institute in Melbourne for scientific research and clinical medicine; Emeritus Professor Mollie Holman (AO) Monash University for scientific research related to autonomic nervous system function and control of smooth muscle, and to education; and Professor Lesley Parker (AM), Deputy Vice-Chancellor of Curtin University, for promoting gender development in mathematics and science education.

9. STATE S&T AGENCIES

FASTS is one of the co-sponsors for the next meeting of the State and Territory agencies concerned with promoting S&T in their jurisdictions. The meeting will be hosted by the ACT Government and DIST are the other co-sponsors. I think that we can play a particularly useful role in working with State and Territory agencies, in contributing to their S&T plans and providing expertise where appropriate. Toss Gascoigne is joining a small organisational committee to establish the meeting.

10. DRAFT MARINE S&T POLICY

Minister John Moore recently launched a draft version of the Marine S&T Plan, for comment (preferably by July 15). It is available from DIST (GPO Box 9289, ACT, 2601) or on the web: www.dist.gov.au/science/marine/draft

Peter CULLEN
President, FASTS

FASTS has been considering the impact of taxation (including a GST) on research and the innovation process in Australia. Peter Cullen wrote to the Treasurer on this. The main points of that letter are summarised in the following article which will appeared in *The Canberra Times.*

Please send comments or reactions to the article to the FASTS' office.

GST and Scientific Research

The scientific community welcomes the Government's commitment to reviewing the tax system. It seems that the way we treat capital gains is a positive disincentive to high technology start up firms growing in Australia. The fact that one such company, Memtech, was recently sold to American interests makes it clear that we do not have a level playing field and that the Government's present capital gains taxes are an impediment to growing such firms in Australia.

The Federation of Australian Scientific & Technological Societies is of the view that a high technology, knowledge based society is the only attractive future for Australia. We seek policy settings that will help bring it about rather than provide barriers. We are concerned about the recent sharp drop in Business Expenditure in R&D, the first such drop since the ABS commenced collecting the statistics in the mid seventies. It seems clear that industry in Australia does not have the confidence or conviction to invest in R&D under the present financial settings and economic climate.

The removal of tax incentives seems to have reduced "research" in the finance sector more than

in industry R&D. We are concerned however about the slow start to the START scheme which was supposed to provide more targeted industry support to R&D and was underspent by $50 million last year.

The science and technology community does not oppose a GST in principle, but it does have concerns about how such a tax might be developed and what impact in might have on universities, CSIRO and other research organisations. At present these organisations are largely exempt from sales tax. If a broadly based GST was introduced they might be taxed not only on their scientific equipment and supplies, but on any services they purchase. This could introduce a serious impost on research. Industry investment is already catastrophically low in R&D investment, and a GST tax impost hardly seems a sensible way to improve the situation. If a GST increases the cost of doing research what does the Government intend to do to prevent a further decline in Business investment in R&D in science and technology?

The GST is likely to have major impacts on universities if the New Zealand experience is anything to go by. Students paying transport and accommodation costs for excursions and field work find they have a GST imposed, books and scientific serials are taxed, departments that buy in services (the current outsourcing fashion) find they are taxed on the services.

The universities are also finding a major clerical load in being expected to keep track of the tax on myriads of small purchases and transactions? Will university operating grants be increased to pay for the tax and the administrative burden, or is this just another way that operating costs can be removed from the education process itself?

FASTS could not support any measures that increased costs to the university sector or other research groups by adding to their direct costs or administrative load. The universities have enough on their plate as it is. Education needs to be "zero rated" as at present, or compensatory funding needs to be provided as part of the University operating grants.

FASTS believes that research and development should be encouraged as an activity vital to Australia's future. There is a strong argument for scientific research activity (as well as the provision of educational services) to be zero rated in any GST. This is a simple and explicit means of encouraging R&D. We appreciate that many groups are seeking exemption from a GST, and the problems this gives to Government. If the tax is indeed to be broadly based, then other compensation mechanisms for research providers and those that commission the research should be developed.

We look forward to a better tax system that will encourage industry and research groups to create wealth, employment and solutions to our environmental problems.

Peter CULLEN
President, FASTS

FASTS, THE ELECTION AND S&T POLICY

As the election draws closer, I do not think that anyone in the science and technology community can be satisfied with the performance of either the Government or the Opposition in science and technology. Neither major party has worked out how S&T can most effectively be harnessed to benefit Australians, and neither party has given emphasis to S&T in major policy statements.

While both major parties make the right noises (especially when they are in opposition), their performance in Government show that neither recognises the role of S&T as a driver of jobs, wealth, and solutions to environmental and social problems in Australia.

I am enclosing ten key questions framed by the Board. We will be putting these to politicians over the next few weeks, and I would urge you to pass them on to your members in AES. They too can ask politicians how they intend to meet the pressing issues related to S&T. The impact is across a wide range of Portfolios - not only Science and Technology. The answers will help scientists and technologists determine the way they vote.

THE TEN QUESTIONS

Q 1. Australia will suffer a serious shortage of qualified science and mathematics teachers in secondary schools and colleges by the year 2000. How will you and your Party overcome this shortage?

Q 2. Bill Clinton, President of the world's most successful economy, said earlier this year: "We must seize this moment to strengthen our nation for the new century by expanding our commitment to discovery, increasing our support for science." Then he announced the largest

funding increase in American history for science and medical research. What policies have you and your Party to encourage Australian scientists to develop their best ideas, and what funding will you apply to enable them to do so?

Q 3. Australian science and technology supports industries in the bush such as wine, mining and agriculture. They build better communication and transport systems, and help protect our environment. CSIRO, the universities and other research institutions contribute to community life in rural areas. How will you and your party support research and technology to strengthen Australian industries in the bush?

Q 4. When Australia looks to the next century, biotechnology and information technology are among the areas which offer huge potential growth and employment. What vision do you and your Party have for Australia in the 21st century?

Q 5. The capacity of Australian universities to provide world-class education and research training is being threatened by:

budget cuts to operating costs
the decline of laboratory and library facilities
outdated equipment
increased teaching loads
the failure of Government to meet properly negotiated salary increases

How do you and your Party plan to put our universities back on an internationally competitive footing?

Q 6. In 2004 Australian territory will more than double in size under the United Nations Law of the Sea. Twelve million square km of under-sea territory will be added to the nation's land area of nearly 8 million square km. How will you and your Party ensure that Australia has the scientific and technological expertise to manage this potentially rich resource responsibly?

Q 7. The Australian Research Council funds a large part Australia's basic research. But the last Budget wrote in future cuts of $33 million (7.5%) in 1999-2000 and a further $28 million in 2000-2001. This will make it even harder for scientists to gain funding for their research. Do you and your Party believe that funds for research should be increased? If so, how and when will you increase them?

Q 8. Job insecurity, lack of career paths and low salaries are driving good young scientists away from jobs in research. Australia is in danger of losing a generation of scientists and technologists. How will you and your Party work with industry, providers of venture capital and research organisations to encourage research and the commercialisation of research?

Q 9. This year, business expenditure on R&D dropped for the first time in 20 years. Australia's ranking is way behind comparable countries - 19th out of 24 OECD and Asian nations. What will you and your Party do to encourage industry to invest in the new ideas and new technologies to generate wealth and jobs in Australia?

Q 10. The Boston Report said Commonwealth funding should increase by $125 million per annum to restore university infrastructure to satisfactory levels, but many university laboratories no longer even meet basic health and safety requirements. Do you and your Party support increased spending to restore the laboratories and libraries of our research organisations?

Mr Toss GASCOIGNE
Executive Director
FASTS
PO Box 218
DEAKIN WEST ACT 2601
Email: fasts@anu.edu.au
http://www.usyd.edu.au/su/fasts/

STUDENT NEWS

For those of you don't already know about the XXI International Congress of Entomology (Brazil, 2000) check out the web page at http://www.embrapa.br/ice and start saving, it looks like it will be covering a very wide range of topics.

Supervisor Profile

Thanks to **Tara Simmul**, for providing the first profile of her new supervisor at the University of Tasmania.

Dr Geoff R. Allen - Tasmania

Geoff commenced his appointment at the Hobart campus of the University of Tasmania in January this year. His role is to lecture, supervise students and interact with industry. Industry connections are with the Cooperative Research Centre for Sustainable Production Forestry (CRC-SPF) and Tasmanian Institute of Agricultural Research (TIAR), the latter being a joint venture between the Tasmanian State Government and the

University of Tasmania. Within the CRC, his work focuses on the ecology and biocontrol of insects associated with eucalypts, whilst the TIAR link involves work in agricultural entomology areas such as weed biocontrol (via Dr John Ireson).
Interests: behaviour and ecology of insects
- host-parasitoid interactions
- application of behavioural ecology to optimise biocontrol
- insect mating systems
- sexual selection
- sperm competition

Quote "Most commonly, though not exclusively, I have worked with insect parasitoids in both native and applied ecosystems"

History: B.Sc. (Hons) in Zoology/Entomology, University of NSW

Medical entomology - two years

PhD on insects and their parasitoids associated with eucalypts, Adelaide University.

Fulbright Postdoctoral Fellow on red scale parasitoids, University of California, Riverside ARC fellow on sound-locating tachinid flies, University of Western Australia

Lectureship, Entomology, University of Tasmania, School of Agricultural Science

Reminder:

To subscribe to the Student list send an email to Fiona.Clissold@sci.monash.edu.au and to send an email to be distributed the address is ent.soc@sci.monash.edu.au.

COMING EVENTS

SOCIETY OF AUSTRALIAN SYSTEMATIC BIOLOGISTS
AUSTRALIAN SYSTEMATIC BOTANY SOCIETY
Invertebrate Biodiversity & Conservation
Perth 1999 Joint Conference

In August 1699, the English buccaneer William Dampier collected the first plant specimens from Australia, at Shark Bay and farther north. The strangeness of the environment made an immediate impression. Later discovery and research have revealed a vast physical and biological diversity, and confirmed its uniqueness.

What have we learnt about the Australian environment in the succeeding 300 years and where will the 21st Century take us?

Come to the last conference of the 1900s, hear what we have learnt about our land and enjoy good company and tours among late spring wildflowers and well-matured wines.

The 1999 Conference - 300 years in New Holland and Old Australia - will be held in Perth, Western Australia, from 6 to 10 December. There will be four days of lecture sessions and a mid-week morning of poster sessions followed by an afternoon river excursion to the Swan Valley, the State's original wine-producing district.

The lecture program will include major geological, botanical and zoological overviews of our knowledge about Australia, with forecasts of developments in the 21st Century. At least one session will address the inter-relationships between the flora and invertebrate fauna. To commemorate the tercentenary of Dampier's visit there will be several papers on his collections and the special features of the Shark Bay region. There will be papers on recent research projects. We hope to have papers on Aboriginal knowledge of the land and its biota.

The Conference will be preceded (3-4 December) by a two-day excursion to the northern kwongan (Eneabba, Badgingarra) and followed (7-10 December) by a four-day tour through the lower South-West (Augusta, Albany, Stirling Range-passing through some recently-developed wine districts). The dates may seem late in the year, but at that season there is still a great deal in flower and those who have been here in spring will see different late-flowering genera and species, including the spectacular arborescent mistletoe *Nuytsia*.

On 5 December we propose to have an aerial tour to Shark Bay, where Dampier collected specimens and a region of great historical, geological and biological significance. Other early visitors there included Dirk Hartog (1616), Willem de Vlamingh (1697) and French expeditions around 1800.

Hamelin Pool is the site of living stromatolites and significant seagrass banks. The flight, of about four hours, will be along the coast with detours over the Abrolhos Islands, Kalbarri and the Murchison River gorge, the Zuytdorp Cliffs, Dirk Hartog Island, Shark Bay and Hamelin Pool, returning along the coast so that passengers on each side will have a good view. The aircraft will be a high-wing, twin-turboprop Fokker 50, with

good viewing from all seats. Whether we put on this flight depends on attracting sufficient passengers. The cost of this trip will be c. $330. Expressions of interest in this trip should be given to Alex George by 31 August 1998 and will be recorded on a first-in basis. Should there be strong demand, a second aircraft will be available.

A first circular and a form calling for expressions of interest in the Conference will be available later in the year.

Current members of the organising committee are:-

Jenny Chappill, University of Western Australia
phone: 08-9380-2212
fax: 08-9380-1001
email: chappill@cyllene.uwa.edu.au

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Erich Volschenk, Curtin University of Technology
phone: 08-9266-3704
fax: 08-9266-2490
email: pvolschenke@cc.curtin.edu.au

Australian Pollination Ecologists Society
Annual General Meeting
Jurien Bay, Western Australia
21-25 September 1998

The Australian Pollination Ecologists Society will be holding its AGM in W.A. this year. The meeting will be held at Jurien Bay from 21-25 September. For further details contact:

Liz Brown
e-mail: lizb@kpbg.wa.gov.au
telephone: (08) 9480 3640
fax: (08)9480 3641)
Terry Houston at the WA Museum.

ANIC
TECHNICAL TRAINING COURSE

Australian National Insect Collection
CANBERRA
21-25 September 1998

A well curated and maintained collection is the foundation of any research project in entomology, be it for taxonomic, systematic or agricultural research purposes. Collection and preparation of entomological specimens are specialised tasks requiring specific equipment, techniques and skills.

This is the seventh Technical Training Course being conducted at the Australian National Insect Collection.

The course is designed to teach participants how to collect, prepare and curate entomological material to a state ready for identification. The course will comprise a series of demonstrations on these aspects as they related to the major orders of insets and related arthropods. Specimen identification is not covered within the course. Participants are provided with opportunities to gain hand-on experience during the course. Course participants will receive detailed handouts and material covering all aspects of the course.

The Course Fee will be $500 which includes tuition and all course material (handouts, manual, access to microscopes, etc). This fee does not include meals of accommodation.

Enquiries and application forms:
The Collection Manager
Australian National Insect Collection
CSIRO Entomology

GPO Box 1700
CANBERRA ACT 2601
Phone: (02) 6246 4036
Fax: (02) 6246 4264
Email: grahamc@ento.csiro.au
URL:
http://www.ento.csiro.au/research/natres/natres.html

THE NEW PANORAMA OF ANIMAL EVOLUTION "
The New (XVIII) International Congress of Zoology
Athens, Greece
28 August-2 September. 2000
FIRST CIRCULAR

After the positive reaction of the international community of zoologists to our initiative and the support of a number of national organisations, the date of the New Congress has been set for 4-9 September 2000 and the venue will be the Faculty of Philosophy, at University of Athens, Greece. under the auspices of the Hellenic Society of Zoology.

In order to reverse the present trend of fragmentation of Zoology and the crisis in professional zoological education which became rampant after the suspension of the Zoology congresses in 1972, we have decided to dedicate this first renewed congress to a number of integrative symposia and general discussions. We call upon you to participate!

General symposia, proposed themes.

A1. The new palaeontological picture
A2. Macro- and megaevolution: integration of molecular and morphological data
A3. The Integrative Approach for the Study of Animal Evolution
A4. Comparative and evolutionary immunology
A5. The new embryology and developmental biology
A6. The Role of Parasitism in Animal Evolution
A7. The Protozoan-Metazoan Boundary
A8. Zoological roots of anthropology

Ad-hoc symposia proposed so far:

B1. History of Zoology from Aristotle to the modern crisis
B2. Modern biogeographic methods applied to the Tethys region
B3. Cloning and cryopreservation

General discussion themes suggested are:

C1. Zoological and taxonomic education
C2. The hot spots of animal conservation
C3. Reference collections and Data Bases
C4. Zoological Nomenclature and the new "Biocode"
C5. The "Tree of Life" and other such projects.

Poster sessions will be organised around the themes of the symposia.

Parallel events are being considered

The symposia will be organised by convenors and present reviews and viewpoint, leaving ample time for recorded discussions. The addresses of the convenors can be obtained on request.

Those interested in theme C4 can access http://www.york.biosis.org/zrdocs/codes/biocode.htm and comment to iczn@nhm.ac.uk

Unlike ongoing congresses and conferences, our initiative represents a new start. In order to be able to commit ourselves, WE NEED already at this early stage, a critical mass of positive responses.

Please inform us before the end of September 1998 of your intention to participate, or interest in receiving further information, by sending your name, institutional affiliation, address, fax and email details to:

Dr Rosa Polymeni
University of Athens
Department of Biology
Section of Zoology and Marine Biology
15784 Athens, Greece.
Tel. 30-1-7264364
Fax. 30-1-7284604
Email. rpolyme@biology.db.uoa.gr

A form that can be used for this can be copied from http://www.york.biosis,org/zrdocs/new_icz.

International Initiative Committee Prof. Bruno Battaglia, Padova; Prof. Dan Brooks, Toronto; Prof. Edwin Cooper, Los Angeles; Prof. Vassili Kiortsis, Athens; Prof. Claude Levi, Paris; Prof. Paulo Nogueira Neto, Sao Paulo; Prof. Francis Dov Por, Jerusalem; Prof. Song Da-xiang, Beijing.

Organising Committee on behalf of the Hellenic Society of Zoology: Drs. Rosa Polymeni, Tassos Legakis, Spyros Sphendourakis, Maria Thessalou Legaki, Athens, Maria Lazaridou, Haris Hidiroglou,Thessaloniki, Vassilis Hondropoulos, Stella Fragedaki-Tsoli, Patras, Drossos Kotsoubas, Crete.

"Termite Management Today: 1998 CERIT Industry Briefing Symposium"

Thursday 1 October.
University of New South Wales
Sydney, Australia.

Termite Management Technology is a rapidly growing and changing field with its own problems and controversies. To help industry, researchers and consumers to stay in touch with current issues and progress, the Centre for Entomological Research and Insecticide Technology (CERIT) is organising a full day symposium on termite management. It is intended to bring participants up to speed on the latest tools for termite management well as to provide a forum for information exchange and networking.

Topics will cover essentials relating to management of termites, limited to current issues and trends. Recognised experts will aim to provide balanced independent viewpoints. Topics will include biology, baits, biological control, chemical and physical barriers, integrated management, building practices, product testing and registration, legal aspects and future trends in termite management."

Cost for full day $200 per attendee, or 'early bird' registration at $180 prior to 14 September 1998.

For Further Information:
CERIT, Biological Science
University of New South Wales
SYDNEY NSW 2052
Phone: (02) 9385 0344
Fax: (02) 9385 0346
email: cerit@unsw.edu.au

7th Australasian Conference on Grassland Invertebrate Ecology Perth, Western Australia September 1999

Details: *Myrmecia* **34**(2): 19
Further information:
John Matthiessen
CSIRO Entomology
Private Bag PO
Wembley
Western Australia 6014
Phone: 08 9333 6641
Fax: 08 9333 6646
E-mail: johnm@ccmar.csiro.au
Information also available at:
http://www.agric.wa.gov.au:7000/Ento/ACGIE/

XIII International Congress of IUSSI International Union for the Study of Social Insects

29 December 1998 - 4 January 1999
University of Adelaide

Further information:
Dr Michael P. Schwarz
Biological Sciences
The Flinders University of South Australia
Phone: 61 8 8201 3729
Fax: 61 8 8201 3015
Email: Michael.Schwarz@flinders.edu.au
Web site:
http://www.bio.flinders.edu.au:80/iussi/home.htm

INTEGRATED PEST MANAGEMENT
IPM
IOBC/SEARS Workshop
Sydney, January 1999

Workshop of SEARS/IOBC Working Group on Greenhouse/Protected Crops IPM
"Natural Enemy to Biological Control Agent: Evaluating the Process"
25-28th January 1999
Sydney, Australia

Details: *Myrmecia* **34**(2): 20
Further information:

Dr. S. Goodwin
Horticultural Research & Advisory Station
NSW Agriculture
PO Box 581
Gosford NSW 2250 Australia
Phone: 61-2-43481929
Fax: 61-2-43481910
E-mail: stephen.goodwin@agric.nsw.gov.au
Website: http://www.dpi.qld.gov.au/iobc

AUSTRALIAN ENTOMOLOGICAL SOCIETY
29 AGM and Scientific Conference

26 - 29 September 1998
The University of Queensland, Brisbane
Details: *Myrmecia* **34**(2): 20-21.
Further information:
Sally Brown,
Institute of Continuing and TESOL Education (ICTE),
University of Queensland, Brisbane Q 4072.
Telephone: 07 33656360
International telephone: +61 7 33656360
Facsimile: 07 33657099
E-mail: sally.brown@mailbox.uq.edu.au
For more details see the Conference web page at:
http://www.uq.oz.au/entomology/entsoc/entoconf.html

Sixth Australasian Applied Entomological Research Conference
'Pest management - future challenges'
29 September - 2 October 1998
The University of Queensland
Brisbane, AUSTRALIA
in conjunction with
Australian Entomological Society 1998 Conference and 29th AGM
26 - 29 September 1998
Details: *Myrmecia* **33**(3): 29-32
AAERC homepage at:
http://www.ctpm.uq.edu.au/Education/AppliedEnto.html
Further details:
Sally Brown
ICTE Conferences
The University of Queensland
Brisbane QLD 4072 AUSTRALIA
ph: (+61 7) 3365 6360
fax: (+61 7) 3365 7099
Email: sally.brown@mailbox.uq.edu.au

XIVth INTERNATIONAL PLANT PROTECTION CONGRESS

Plant Protection Towards the Third Millennium
Where Chemistry Meets Ecology
Jerusalem, ISRAEL
July 25-30 1999
Details: *Myrmecia* **33**(2): 24-25
Contact:
Congress Secretariat
XIVth International Plant Protection Congress
PO Box 50006
Tel Aviv 61500

ISRAEL
Telephone: +972 3 514 0000
Fax: +972 3 514 0077 or 517 5674
Email: IPPC@Kenes.com

The Australian Society for Microbiology Inc.
1998 Annual Scientific Meeting & Exhibition
"MICROBES TO THE MAX"
27 September - 2 October 1998
Wrest Point Hotel Casino
HOBART TAS 7000
For more information please contact:
ASM Secretariat
Unit 23, 20 Commercial Road
Melbourne VIC 3004
Australia
Ph: 03 9867 8699

Fax: 03 9867 8722
Email: ASMConference@clari.net.au
Website: http://www.vicnet.net.au/~asm

Fourth Conference of the International Society of Hymenopterists.

Canberra, AUSTRALIA
6-11 January 1999
Details: *Myrmecia* **32**(1): 28
The Conference address and contact is:
4th Conference of the International Society of Hymenopterists,
c/o CSIRO, Division of Entomology,
P.O. Box 1700
Canberra, ACT 2601
AUSTRALIA
fax: 61-6-246.4264
New Email address: ishcon99@ento.csiro.au
The Conference now also has a web page:
http://iris.biosci.ohio-state.edu/ish/conf1999.html

XXI International Congress of Entomology
Iguassu Falls, Brazil
20-26 August 2000
Entomologists Preserving Biodiversity
Details: *Myrmecia* **34**(1): 30-31.

Everything you could possibly want to know about the next ICE is available on the Congress Web Page **http://www.embrapa.br/ice**, including details of accommodation, delegates, services, associated activities, administrative matters, sponsors, symposia, etc.

NOTICES

The 1999 Eureka Prizes

The Eureka Prizes, now in their ninth year, are Australia's pre-eminent national science awards. They acknowledge and reward outstanding achievements in Australian scientific and environmental research, science communication and journalism and the promotion of science. In 1999 a record twelve prizes will be awarded, worth almost $100,000 in total.

Nominations/entries are now invited for the 1999 Eureka Prizes, the winners of which will be announced during National Science Week in May 1999.

* The Allen Strom Eureka Prize for Environmental Education Programs: $10,000. Entries close 30 November 1998
* The Australian Museum Eureka Prize for Industry (not a monetary prize). Entries close 30 November 1998
* The Australian Skeptics Eureka Prize For Critical Thinking: $10,000. Entries close 30 November 1998
* The Environment Australia Peter Hunt Eureka Prize for Environmental Journalism: $10,000. Entries close 31 January 1999
* The Graphic World Eureka Science Book Prize: $10,000. Entries close 31 January 1999
* The Michael Daley Eureka Prizes. Sponsored by the Department of Industry, Science and Tourism Promotion of Science: $7,000. Entries close 30 November 1998
* Science, Technology and Engineering Print Journalism: $7,000. Entries close 31 January 1999
* Science, Technology and Engineering Radio Journalism: $7,000. Entries close 31 January 1999
* Science, Technology and Engineering Television Journalism: $7,000. Entries close 31 January 1999
* The POL Eureka Prize for Environmental Research: $10,000. Entries close 30 November 1998
* The University of New South Wales Eureka Prize

for Scientific Research: $10,000. Entries close 30 November 1998

* The University of Sydney Eureka Schools Prize for Biological Sciences: $10,000. Entries close 16 October 1998

Further details of the 1999 Eureka Prizes and Nomination/Entry forms are available from the Australian Museum's webpage at www.austmus.gov.au/eureka or from:

The Eureka Prizes
Office of the Associate Director
Australian Museum, 6 College Street
SYDNEY NSW 2000
Ph: +61-2-93206230
Fax: +61-2-9320-6015
Email: rogerm@amsg.austmus.gov.au

CSIRO JOURNALS
CONCESSIONAL PRICES 1999

As in previous years, AES members are entitled to purchase the CSIRO journals are concessional prices, as listed below. Proforma invoices will be sent directly from CSIRO Publishing to members. Please contact:

Tracey Lockwood
Subscriptions Officer
CSIRO Publishing
PO Box 1139
Collingwood Vic 3066
Ph: 1800 626 420
Fax: 03 9662 7555
Email: info@publish.csiro.au

PRICES:

Australian Journal of Agricultural Research
Vol 50 (8 issues) $180
Australian Journal of Botany
Vol 47 (6 issues) $120
Australian Journal of Chemistry
Vol 52 (12 issues) $200
Australia Journal of Physics
Vol 52 (6 issues) $150
Australian Journal of Plant Physiology
Vol 26 (8 issues) $140
Australian Journal of Soil Research
Vol 37 (6 Issues) $120
Australian Journal of Zoology
Vol 47 (6 issues) $150
Australian Systematic Botany
Vol 12 (6 issues) $150
Invertebrate Taxonomy
Vol 13 (6 Issues) $170
Marine and Freshwater Research
Vol 50 (8 issues) $120
Reproduction, Fertility and Development
Vol 11 (8 issues) $120
Wildlife Research
Vol 26 (6 issues) $120
Australian Journal of Experimental Agriculture
Vol 39 (8 issues) $120
Publications of the Astronomical Society of Australia Vol 16 (3 issues) $120

CALL FOR NOMINATION/ RENOMINATION OF OFFICERS & REGIONAL COUNCILLORS

All Offices will fall vacant at the Society's 29th AGM in September 1998. Nominations for election should be made on the form provided in the May 1998 issue of *Myrmecia* and should reach the Secretary no later than 1 September 1998.

Vacant Office	Present Incumbent
President	Prof. R.L. Kitching
(Prof. Kitching has served his two year term and is not eligible for re-election)	
(All other Executive positions are appointed for periods of two years and incumbents are eligible for re-election)	
Vice President	Assoc. Prof. M.P. Zalucki
Secretary	Dr D.E. Walters
Treasurer	Ms V.A. Brancatini
Chief Editor	Dr P.G. Allsopp
Business Manager	Mr M. Jefferies
Public Officer	Dr I.D. Naumann
News Bulletin Editor	Dr M.J. Fletcher
Regional Councillors	
(Regional Councillors are eligible for re-election for up to three years only - NSW, ACT and Victoria need a new Regional Councillor)	
Queensland	Mr I.R. Kay
	Dr Tony Clarke
	Dr Jamie Seymour
New South Wales	*Mr J.H. Hawking
	Dr G.M. Gurr
	Mr Cameron Webb
Australian Capital Territory	Dr M. Matthews
	*Dr G.V. Maynard
Victoria	*Ms N.M. Endersby
	Ms F. Clissold
South Australia	Dr G.S. Taylor
	Dr P. Dangerfield

Tasmania	Dr J. Elek
Western Australia	Ms F.A. Berlandier
Northern Territory	Mr G. Bellis

*** not eligible for re-election**

Representative Councillors

(Representative Councillors are appointed by the affiliated Societies. There are no restrictions on terms served in this capacity)

Ento. Society of Queensland	Dr J. King
Ento. Society of NSW	Dr A.D. Clift
Ento. Society of Victoria	Mr R. MacPherson

Australian Entomological Society Inc.

APPOINTMENT OF PROXIES

I, ...

of .....

.....

being a member of the above-named Society,

hereby appoint .....

of .....

.....

as my proxy to vote for me on my behalf at the Council Meeting, Annual or Special General Meeting, as the case may be, of the Society, to be held during 26-29 September 1998, and at any adjournment thereof.

Signed this .....

day of ..... 19 ...

Signature .....

(A photocopy of this form may be used)

Australian Entomological Society Inc.

NOMINATION OF OFFICER OR COUNCILLOR

I nominate .....

for election to the office of .....

.....

Name of nominator .....

Signature .....

Date .....

I second this nomination

Name of seconder .....

Signature .....

Date .....

I accept this nomination*

Signature .....

Date .....

* The nominee is requested to attach a typed statement, not exceeding 300 words, which includes the following: professional qualifications, address, institution, position held, fields of entomological interest, previous offices or appointments held in the Australian Entomological Society, any other information which may be of interest to members.

(A photocopy of this form may be used)

Please send all nominations to Dr David Evans Walter, Dept Entomology, The University of Queensland, St Lucia, Qld 4072 before **1 September 1998.**

The Australian Entomological Society Inc.

INSECT ILLUSTRATION COMPETITION

The Australian Entomological Society invites previously unpublished and undisplayed entries to this competition to be judged and displayed at the Society's Annual Scientific Conference to be held in Brisbane 26-29 September 1998.

Illustrations of an insect, arachnid or myriapod will be accepted.

Categories will be:

- Colour Illustration
- Black & White Illustration
- Colour Photography
- Black & White Photography (including SEM)

Maximum entries: three per person

Entries should be mounted and brought/delivered to the AGM in Brisbane. All proposing to enter should notify:

Sally Brown
ICTE Conferences,
The University of Queensland, Brisbane, Qld, 4072
Ph (07) 3365 6360
Fax (07) 3365 7099
e-mail: sally.brown@mailbox.uq.edu.au

at least a week before the meeting. This is to ensure that sufficient boards are available for mounting.

Illustrations should not exceed 21 x 30 cm.
Photos should not exceed 20 x 25 cm.

EACH ENTRY MUST HAVE THE FOLLOWING INFORMATION ON THE BACK:

Name and Address of entrant
Category of entry
Title of the entry
Scientific Name of the organism illustrated (if known)

CALL FOR NOMINATIONS

FOR THE IAN MACKERRAS MEDAL FOR EXCELLENCE IN ENTOMOLOGY 1998

FINANCIAL MEMBERS OF THE SOCIETY WHO ARE UNDER 50 YEARS OF AGE AS OF SEPTEMBER 1998 MAY BE NOMINATED FOR CONSIDERATION FOR THE IAN MACKERRAS MEDAL FOR EXCELLENCE IN ENTOMOLOGY. NOMINATIONS, TO BE SENT TO THE SECRETARY, NEED TO BE MADE BY AT LEAST TWO FINANCIAL MEMBERS OF THE SOCIETY.

THE PRESIDENT AND FOUR SENIOR MEMBERS OF THE SOCIETY (EXCLUDING ANY NOMINEES OR NOMINATORS) WILL DECIDE ON THE AWARD, WHICH WOULD BE PRESENTED AT THE AGM IN SEPTEMBER.

Please send all nominations to:
Dr David Evans Walter
Hon. Secretary AES
Dept of Entomology
The University of Queensland
St Lucia, Qld 4072

before 1 September 1998.

1998 LISTING OF POSTGRADUATE PROJECTS IN ENTOMOLOGY An Australian Survey: PART II

Introduction

This is Part II of the list of 1998 Postgraduate projects in Australian Entomology. Part I of the survey, published in the May issue of *Myrmecia*, comprised 159 projects. This list, with 99 brings the total to 258 for 1998. A similar survey, with a total of 223 entries, was last published in two parts in the May and August 1996. The numbers of projects recorded in each State or Territory for 1998 are: Queensland (78), Victoria (53), South Australia (41), New South Wales (25), Tasmania (25), ACT (22), Western Australia (11) and Northern Territory (3). I am indebted to Glynn Maynard, Penny Gullan, Olivia Kvedaras, Peter Gregg, Jamie Seymour and Jane Elek who helped with the collection of data and to everyone else who contributed (their names appear in brackets before the entries). You may notice, too, that several "acknowledgments" appear as internet addresses, where projects related to entomology were gleaned from the internet. This has brought to light a number of projects involving entomology undertaken in other than the mainstream entomological institutions. Other entomologically-related projects, particularly those that include insects as indicators of biodiversity, or those where insects and/or other arthropods comprise a significant component of a research program (even if merely as fish or bird food), have been included. The observant scrutineer of this survey will also note that spiders, ticks and mites have been granted honorary insect status!

Gary TAYLOR

AUSTRALIAN CAPITAL TERRITORY

(Dr Glynn Maynard, Regional Councillor)

AUSTRALIAN NATIONAL UNIVERSITY

(Dr Penny Gullan)

Division of Botany & Zoology, Faculty of Science

(* co-supervision, CSIRO Entomology)

CHIGNELL, S. (Hons) Colony dynamics and social behaviour in the Australian huntsman spider *Delena cancerides*.

*CLAUDIANOS, C. (PhD) The evolution of esterase cluster and insecticide resistance in *Musca domestica*.

COOK, L.G. (PhD) Karyology and evolution of the gall-forming genus *Apiomorpha* (Hemiptera: Coccoidea: Eriococcidae).

DAVIES, K.F. (PhD) Which traits make species extinction-prone in forest fragments? (co-supervised CSIRO Wildlife & Ecology).

DENNIS, S. (Hons) The stomatogastric nervous system of *Teleogryllus commodus* (Gryllidae).

*DIMITRIADIS, S. (Hons) The use of subfossil Australian chironomid remains from highland lakes in the reconstruction of palaeoenvironments and palaeoclimates during the Pleistocene/Holocene.

*DOBSON, P. (Hons) The diversity and ecology of the insecticidal crystal proteins of *Bacillus thuringiensis*.

*HOARE, R.J.B. (PhD) Systematics of Australian nepticulid moths (Lepidoptera: Nepticulidae).

LIT, I.L. (PhD) Systematics of Australasian and South East Asian lac insects (Hemiptera: Coccoidea: Kerriidae) (enrolled at Uni. Philippines, external supervision by P.J. Gullan).

MELBOURNE, B.A. (PhD) Scaling of algae-herbivore processes in streams of the Clyde River catchment, NSW.

*REICHEL, H.L.M. (PhD) Systematics and biogeography of *Rhytidoponera* (Hymenoptera: Formicidae).

SPESSA, A.C. (PhD) Behavioural and population ecology of an Australian colletid bee, *Amphylaeus morosus* (co-supervised with Mike Schwarz, Flinders Uni., SA).

STEPHENS, C.F. (Hons) Grasshopper assemblages in Natural Temperate Grassland of differing native plant diversities.

*SUTRISNO, H. (GradDipSci) Biology and taxonomy of some Australian Pyraustinae (Lepidoptera: Pyralidae).

TRUEMAN, H. (Hons) Molecular phylogenetics of Margarodidae (Hemiptera: Coccoidea).

*WILLIS, E. (Hons) Seasonal and diel emergence patterns of Chironomidae in pristine montane streams in the Brindabella Range.

WILSON, A. (PhD) Population genetics and biogeography of *Sitobion* aphids (co-supervised

with Paul Sunnuck & Dinah Hales, Macquarie Uni.).

*WRIGHT, I.A. (PhD) Towards a classification of eastern Australian freshwater lakes.

Biotechnology Program
CSIRO Entomology, Canberra
(with co-supervision in Botany & Zoology, ANU)

CAMPBELL, B. (PhD) Genetics of esterase resistance: the consequences for resistance management of pyrethroids.

COLEBATCH, G. (PhD) Mirid physiology and susceptibility to proteinaceous toxins.

DENT, S. (MSc) Juvenile hormone esterase in *Drosophila*..

RICE, R. (PhD) Molecular taxonomy of the bacterium, *Nosema apis*.

NEW SOUTH WALES

UNIVERSITY OF SYDNEY

School of Biological Sciences
(Dr Alan Meats)

NICETIC, O. (MSc) Integrated Pest Management in commercial glasshouses.

PIKE, N. (PhD) Reproductive isolation and the status of *Bactrocera tryoni* and *B. neohumeralis*.

REID, A. (PhD) Sustainable grazing on native grasslands and soil invertebrate biodiversity.

SHEARMAN, D. (PhD) Sex specific genes of *Bactrocera tryoni*.

WILKES, K. (PhD) Behavioural genetics of hygienic disease-resistant bees.

YU, H. (MSc) Analysis of highly variable DNA microsatellites in populations of *Bactrocera tryoni*.

UNIVERSITY OF NEW ENGLAND

School of Rural Science and Natural Resources
(Ms Olivia Kvedaras, Assoc/Prof Peter Gregg)

ANNETTS, Rob (PhD) Integration of parasites into pest management programs for cotton.

BAKER, Amelia (PhD) Morphological and physiological responses of cotton to mite feeding.

COTTAGE, Emma (PhD) Management of resistance in *Bemisia tabaci* to insect growth regulators and juvenile hormone mimics.

JOHNSON, Marie-Louse (PhD) Comparing the effectiveness of beneficial insects on control of *Helicoverpa* spp.

KHAN, Moazzem (PhD) Ecology and management of mirids in cotton.

KVEDARAS, Olivia (Masters) The influence of host plants on the mating behaviour of the cotton bollworm, *Helicoverpa armigera* (Hubner).

YEE, M. (Hons) Identifying potential habitats of predators of *Helicoverpa* spp. in two cotton growing regions.

School of Biological Sciences
(Ms Olivia Kvedaras)

HARRIS, K-L. (PhD) Mutant analysis of sensory axon guidance in the *Drosophila* axon.

MURRAY, M. (PhD) In vivo dynamics of axon pathfinding in the *Drosophila* embryo.

NAGAHAULLA, S. (PhD) Population ecology of three mite pests of tea in Sri Lanka.

NEWTON, I. (Hons) The effects of pyrethroids on non-target aquatic invertebrates.

TERRY, M. (PhD) Dipteran communities in flower heads of some *Senecio* species: relationship to flower head morphology and anatomy.

WANG, S-Y. (PhD) The development of central projections by sensory neurons in the *Drosophila* embryo.

Department of Ecosystem Management
(Cas Vanderwoude)

VANDERWOUDE, Cas (PhD) An evaluation of ant communities as indicators of ecological change resulting from anthropogenic disturbance in spotted gum (*Corymbia citrodora*) forests in south-east Queensland.

QUEENSLAND

UNIVERSITY OF QUEENSLAND

Department of Biochemistry
(http://florey.biosci.uq.edu.au/Html/PostGrads.html)

HUMPHRIES, Meredith (PhD) The role of biogenic amine receptors in neuro-modulation and the control of complex behaviour in honey bees.

SWASDIPAN, Nicharat (PhD) Molecular-genetics of olfaction and its role in the regulation of insect

behaviour.

Department of Parasitology
(http://www.uq.edu.au/parasitology/studs.htm)

CHIGAGURE, Noel (PhD) Strain and population microsatellite DNA markers for ticks.
MURRELL, Anna (PhD) Molecular phylogeny and evolution of ticks.

Department of Zoology

BROWN, Michael (PhD) Biological control of mosquitoes by *Mesocyclops* spp. (Copepoda).
McKAY, Roland (PhD) (part time) Taxonomy, cladistics and biogeography of Australian Lycosidae (Aranaeae).

Department of Entomology (addenda)
(http://www.uq.oz.au/entomology/phd.html)

JARJEES, Ekhlass (PgDipSci) A chemically-defined, synthetic diet for *Trichogramma australicum* Girault.
MILNE, Manthana (PhD) Species status, host-plant relationships and predatory behaviour of *Frankliniella schultzei*.
SHAW, Matthew (PhD) Parasitic mites associated with hollow-nesting fauna.

JAMES COOK UNIVERSITY

School of Biological Sciences
Department of Zoology and Tropical Ecology
(Dr Jamie Seymour, Regional Councillor)

BARTAREAU, Tad (PhD) Foraging behaviour and ecology of the stingless bee, *Trigona carbonaria*.
BURDEN, Jo (Hons) The role of predation in structuring upland rainforest communities.
DELL, Anthony (Hons) Observations on the community dynamics of the transition from an aquatic to a terrestrial macroinvertebrate community in an intermittent stream.
GROVE, Simon (PhD) Saproxylic insects and sustainable rainforest management.
HUBER, Patrick (PhD) The ecology of the fruit piercing moths, *Eudocima* spp., in North Queensland.
KEMP, Darrell (PhD) Mating strategies in the butterfly, *Hypolimnas bolina*.
MURRAY-SMITH, Sean (MSc) Epidemiology of a dengue fever outbreak in north Queensland.
PHISUTHIPHORN, Nalinee (MSc) Patterns of foraging behaviour in seed harvester ants in tropical north Queensland.
RICE, Anthony (Hons) The role of local adaptation in the establishment and proliferation of *Zygogramma bicolorata* in Queensland Australia.

GRIFFITH UNIVERSITY
Gold Coast Campus

School of Applied Science
(Dr Clyde Wild)

CHITRA, Eric (Masters) Bionomics of *Culicoides molestus* (Diptera: Ceratopogonidae) in Gold Coast canals.
CLOUGH, Elizabeth (PhD) Biodiversity of old gardens, as measured by insect fauna.
MURDOCH, Michelle (Hons) Role of fruit flies (Diptera: Tephritidae) in the ecology of alpine daisies on Mt Kosciuszko.

Nathan Campus

Faculty of Environmental Sciences
Centre for Catchment and In-Stream Research
(Assoc/Prof Stuart Bunn)

BALCOME, Fiona (PhD) Response of stream fauna to flow related changes in habitat in rainforest streams in southeast Queensland.
LYNCH, Romeny (PhD) The importance of in-stream sources of secondary production to terrestrial food webs, with particular focus on the role of adult aquatic insects to the diets of riparian birds in Kakadu NP.
MARSHALL, Jon (PhD) Factors influencing community structure and functional organisation of the pool fauna of rainforest streams in south-east Queensland.
NEGUS, Peter (PhD) The importance of riparian inputs of fruits and arthropods to the diets of tropical stream fish in the wet tropics.
WISHART, Marcus (PhD) Gene flow among populations of stream insects in South Africa.

SOUTH AUSTRALIA

(Dr Gary Taylor, Regional Councillor)

THE UNIVERSITY OF ADELAIDE
Waite Campus

Department Of Crop Protection (addenda)

DORIAN, Camilla (Hons) The influence of ecdysone and juvenile hormone on glycosylation in *D. melanogaster.*

HUYNH, My-My (Hons) Insect biodiversity in ecosystems affected by weeds.

KIMBER, Bill (Hons) Parasitoid wasps as indicators of biodiversity.

LEYSON, Megan (Hons) Horehound plume moth as a biocontrol agent of horehound.

STEVENS, Nicholas (Hons) Taxonomy and phylogeny of microflea wasps, *Baeus* sp.

NORTHERN TERRITORY

NORTHERN TERRITORY UNIVERSITY

Department of Biological and Environmental Sciences (addendum)
(Martin Shivas)

SHIVAS, Martin (PhD) The larval biology of *Culicoides ornatus* Taylor (Diptera: Ceratopogonidae).

TASMANIA

(Dr Jane Elek, Regional Councillor)

UNIVERSITY OF TASMANIA

School of Zoology
(Assoc/Prof Alastair Richardson, Dr Leon Barmuta)

CLELAND, Victoria (Hons) The fauna colonising native and introduced macrophytes in highland Tasmanian lakes.

ELVEY, William (PhD) Effects of trout predation on the invertebrate benthos of Tasmanian streams.

HANSEN, Brita (PhD) Biology of the Tasmanian giant fresh-water crayfish, *Astacopsis.*

HARRINGTON, Julian (Hons) Habitat use by sympatric species of ephemeropteran nymphs in Little Pine Lagoon, central Tasmania.

MEGGS, Jeffrey (MSc) Habitat and conservation requirements of three threatened species of stag beetles.

TURNBULL, Derek (Hons) Prey selection by *Eusthenia costalis* (Plecoptera: Eustheniidae) and the influence of habitat complexity.

WARFE, Danielle (PhD) Habitat complexity and prey selection by Zygoptera and small native fish predators in macrophyte beds of lowland rivers.

YOUNG, Catherine (Hons) Phylogeny of Geometridae with particular reference to Tasmanian genera.

School of Geography and Environmental Sciences
(Dr Jane Elek,
http://www.geog.utas.edu.au/geog/staff/petermc/students.htm)

ARCHER, Louise (Hons) Effects of forest management on bryophyte-dwelling beetles.

BERRY, Katrina (MEnvSt-Coursework) Variation in wing phenotype of the butterfly, *Orcixenica lathoniella*, over environmental gradients in Tasmania.

DUNN, Helen (PhD) Conservation values of fresh water insect fauna.

HINGSTON andrew (BSc Hons) The impact of the large earth bumblebee, (*Bombus terrestris* L.) on Tasmanian ecosystems.

KEBLE-WILLIAMS, Jane (Hons) Effect Of insect herbivory on rain forest canopy in Tasmania.

MELLICK, Stephen (PhD) Impact of honey bees on pollination ecology of leatherwood.

MICHAELS, Karyl (PhD) The conservation of carabid beetles (Coleoptera: Carabidae) in Tasmania.

SMITH, Kindi (Hons) (part time) Effects of spatial distribution of vegetation on populations of the *Eucalyptus* leaf beetle, Chrysophtharta bimaculata.

WOTHERSPOON, Karl (MEnvSt-Coursework) Insect herbivory patterns on co-extensive eucalypts.

School of Agricultural Science/ CRC for Sustainable Production Forestry
(Dr Geoff Allen)

BEVERIDGE, Natasha (PhD) The biology, ecology and biocontrol of eucalypt beetles associated with *Eucalyptus nitens.*

CANDY, Steve (PhD) Mathematical models and sampling procedures to support integrated pest management of leaf beetles.

HOWLETT, Bradley (PhD) Factors affecting the egg batch distribution of *Chrysophtharta bimaculata* (Coleoptera: Chrysomelidae) on eucalypts and their implications for larval survival.

LUKACS, Zoltan (PhD) Phenology of Autumn Gum Moth, *Mnesampela privata* (Lepidoptera: Geometridae).

RAPLEY, Luke (Hons) Pupal diapause and larval feeding performance in Autumn Gum Moth (*Mnesampela privata*).

SIMMUL, Tara (PhD) Ecology of the fireblight beetle, *Pyrgoides orphanai* (Coleoptera: Chrysomelidae), a pest of silver wattle.

School of Plant Science

HINGSTON andrew (PhD) Pollination ecology and gene flow in *Eucalyptus globulus*.

LAWRENCE, Rachel (Hons) The response of dependant insect communities to plant ontogeny in eucalypts.

VICTORIA

(Fiona Clissold and Nancy Endersby, Regional Councillors)

UNIVERSITY OF BALLARAT
School of Science
(supplied by Neil Hives)

DOUGLAS, F. (MSc) Taxonomy, Biology, Distribution, Habitat Requirements and Conservation of the Pale Sun Moth, *Synemon* sp. aff. *selene* (Lepidoptera: Castniidae).

ROBERTSON, E. (PhD) The Effect on Biodiversity of Thinning and fertilisation of Eucalypt Regrowth in Wombat State Forest Victoria (Project contains a considerable invertebrate component).

KENNEDY, S. (Hons) The Foraging Ecology of Overwintering Swift Parrots, *Lathamus discolor*, in the Box Ironbark Forests of Victoria (Project contains a considerable invertebrate component).

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY INC.

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Dr D.E. Walter, AES Secretary, c/o Dept. of Entomology
University of Queensland, QLD 4072

We the undersigned

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Seconder: ....
(print name here) (signature)

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